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NUTRITIONAL PROBLEM IN INFANCY

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There is a growing realisation that ill-health and disease are intimately connected with nutrition. We know malnutrition is largely responsible for the incidence of diseases like tuberculosis, leprosy or anæmia. The soil is considered no less important than the seed and the nutrition of the individual is no less important than the invading agent in the causation of disease. As a clinician who had some opportunity to study infants in health and disease, I thought it might interest you if I placed before you some of the problems in early infancy, *i.e.*, particularly during the first three or four months.

The infant at birth is in a strange environment. In intra-uterine life, it gets the necessary nourishment directly from the maternal blood through the placenta. Digestive and respiratory systems are lying dormant and muscular activity is at a minimum.

All this is changed at birth when digestion, absorption and elimination become active processes. Lungs begin to function and the child exhibits greater muscular activity as in crying. The nutritional needs are greater than in intra-uterine life. The growth of the child is very rapid, the child nearly doubling its weight by the end of the fifth month. To meet the rapid growth, more nourishment is required as compared to the adult. The nutrition of new-born infant is governed by various factors such as its birth weight, whether full term or premature, presence or absence of congenital diseases or defects, the nature of nourishment it receives and its environments.

Greater the birth weight, greater is the resistance of the infant to infection and greater is its assimilation power. In England the average weight of the infant at birth is 7 lbs. and in Madras it is 6·3 lbs. The premature infant requires weight for weight more nourishment but has an undeveloped digestive system. Therefore assimilation of the food becomes a problem.

We all know congenital defects like harelip and cleft palate or conditions like syphilis or cardiac disease interfere with the growth and nutrition of the child.

Calorific Requirements

The new-born infant requires per day 50 calories of food per lb. body-weight and about 40 calories from the fourth month onwards. The calorific system gives an approximate idea of the nutritive value of the food the child is receiving. 1 gm. of fat yields 9 calories while 1 gm. of protein and carbohydrates each yield 4 calories.

A few words are now mentioned on the nature of nourishment it usually receives *i.e.*, breast milk. Breast milk is the ideal food for the infant. It is free

from microorganisms. Certain biological and chemical differences make it impossible to prepare from cow's milk a fluid identical with human milk.

At one time the sole difference was believed to be one in the percentage of fats, carbohydrates and proteins. Then it was found that the fats and porteins in human milk and cow's milk were not identical. There is difference in the vitamin content and salt content. Some enthusiasts think that by increasing the vitamin contents of cow's milk they can modify it to give even better results than human milk.

The salt contents of the two milks are different. These differences have been studied and some laboratory investigators believe that once these are minimised by proper methods, cow's milk can be made to excel human milk. But it overlooks the possibility that there are many more chemical and biological differences and from clinical experience, we believe, do exist.—which are yet to be studied. Breast milk contains protective bodies not present in cow's milk. Moro showed that although no bacterial substances were to be found in human milk yet the blood serum of breastfed children, exhibited a bactericidal power much greater than those of artificially fed. Protective power would appear to be drawn from mother's milk. A number of ferments characteristic of human milk are however absent in cow's milk (these are a diastatic ferment, a fat splitting ferment and a proteolytic ferment). It has been the experience of all the physicians and surgeons dealing with infants, that infection in the first year is more common in artificially fed. In a recent discussion on otitis media, in early childhood, at the Royal Society of Medicine, the incidence of otitis was discussed and in one series of 146 cases 5 of the children were breast-fed whilst the rest 141 cases were bottle fed. The remarks are confined chiefly to the nutrition of the infants during the first three to four months. The tolerance towards cow's milk is fairly well established by the 5th or 6th month, so that after this period, a child may thrive on cow's milk probably just as well as it would have done on mother's milk. The unsuitability of cow's milk is particularly noticeable in the first few weeks and this to a marked extent in the case of premature infants. I know there are infants who have been brought up since birth fairly successfully on cow's milk or its products, but these are rather exceptions. The activity, the alert contented expression, the tone of the muscles noticeable in the breast-fed infant are not present to the same extent in the artificially fed, though for all superficial appearances, as in photographs, the baby fed on artificial foods may look better and plumper than the breast-fed. In the nutrition of the infant in its first few weeks of life, it makes all the difference whether it has the benefit of the mother's milk or not.

There are cases where breast feeding will have to be discontinued on medical grounds. In such cases, the only other recourse left is to adopt cow's milk or its modifications, since a wet nurse is not a practical proposition. But in my experience there are a larger group of cases where the breast milk had been insufficient, and where the parents of the child consulted the medical men for a good artificial food. If only the mother had been encouraged and given the necessary advice how to increase the breast milk there would have been far happier results.

"In short substitute feeding is fraught with perplexities and uncertainties in most competent hands and with dangers and disasters in the incompetent."

COW'S MILK AND THE VARIOUS MILK FOODS AND THEIR NUTRITIVE VALUE

One ounce of cow's milk gives 20 calories of heat energy. From the calorific point of view it is as good as breast milk. It must contain sufficiency of vitamins and sufficiency of salts. These are the common considerations. But one point often ignored is that the infant must be able to digest and assimilate it. A food may be considered adequate from the calorific point and from its containing sufficiency of vitamins and minerals salts but if it is not tolerated by the infant, the nutrition suffers. This fact must always be remembered because some milk foods are extensively advertised as recommended by eminent medical men. These may not be so easily assimilated here in the tropics in which case, there is a breakdown and nutrition suffers. The milk food is almost perfect on account of its intrinsic properties and therefore we are apt to blame the people for administering it improperly. In many cases the fault, so to say, lies in the young infant because it cannot digest. It should be remembered that it is milk food that must suit the baby and not *vice versa*. A food tolerated by the infant in a temperate climate or in the cool

heights of Ooty or Kodaikanal may disagree with it when it comes to the planes.

That is our problem here to find what milk modification will be assimilated by the young infant. I shall now briefly discuss the place of the proteins, fats, carbohydrates and vitamins in the infants' diet.

Proteins.—Protein is essential to life. It is the only food which contains the structural units of protoplasm—the amino acids. Protein is indispensable to growth. It is also a source of energy and stimulates metabolic activities in the body. The amount of protein required by the child depends upon the kind of protein. It thrives on human milk which has about 1·25% of protein but if it is cow's milk a higher percentage is required. In human milk the percentage of lactalbumin is nearly twice that of casein whereas in cow's milk the casein is five times the amount of lactalbumin. The work of Bordet, Wassermann, and others has shown from a biological standpoint that dissimilarities do exist between caseins of different mammalian milks. At one time it was believed that protein in cow's milk was largely responsible for the indigestion in infants. This is not accepted now, as milk foods like 'protein milk' containing a fairly high percentage of protein and low percentage of fat are tolerated by infants with feeble digestion.

Carbohydrates.—These are primarily a source of energy. They are administered to the infant in the early months in the form of sugars either as monosaccharides or disaccharides, like lactose, glucose, sucrose, maltose and dextrin-maltose. Glucose is readily fermented and dextrin-maltose least so. These, to a certain extent, can replace fat in the infant's dietary. Sugars when administered in excess cause intestinal fermentation, abdominal distension, acid frothy stools, which may result in excoriation of the skin round the anus.

There is a very common impression among the laity here that a new product called glucose has been discovered which has a special nutritive value in the infant's dietary. I know many a mother giving her infant, glucose in large amounts thinking that it is even better than breast milk. Sometimes it is with a feeling of pride that she tells you that she is giving the baby not the ordinary form but a special kind, say, glucose X or glucose Y. So great is the hold of glucose on the imagination of the mother that she is apt to look down upon a doctor who does not prescribe it. I do not know who is responsible for this but I know the medical profession has also come under its spell. I have seen cases where the doctor allowed glucose administration freely where he would not have allowed the same amount of carbohydrates, say, in the form of cane sugar. This excessive administration interferes with the digestion of the infant, particularly if it has a weak digestion and is liable to frequent attacks of flatulence or diarrhœa.

Another point to be noted is that the sugar tolerance is less in warmer climates than in the temperate or cold climates. Our infants cannot tolerate the same amount of sugar as those in England or Vienna. 5% to 7% sugar in the milk mixture is the optimum concentration for the infants here.

Fats.—They are an essential constituent of all cells specially in the form of lecithin and cholesterol esters. They are an important source of energy to the body, their calorific value being a little more than twice as great as either carbohydrates or proteins. They save nitrogenous waste and promote growth. They go to form the body fat. The natural fats contain vitamins. The large proportion of fats in human milk is an indication of their importance in the nutrition of the nursing infant, which receives over half his calories in this form. One of the most difficult problems in artificial feeding is to furnish the infant the required amount of fat without disturbing its digestion. The young infant does not tolerate the same amount of fat in cow's milk because the two kinds of fat are not identical. In cow's milk the fat globules are 10 to 15 times larger than in human milk and there is a higher percentage of volatile fatty acids. The differences in the nature of the fats are such that it has not yet been possible to prepare a modification of cow's milk which could be tolerated by the young infant and which contained at the same time, the same amount of fat as in the breast milk. The tolerance towards the fat of our infants is less than in England. That is why many of the well known milk foods which are advertised as the best milk food in infancy are found unsuitable when administered during the first three or four months. These foods are often selected by the mothers themselves because they are so widely advertised and it is rather difficult for a medical man especially

one fresh from the college to pass any remarks about the unsuitability of the food because he is afraid, he may not be believed in the face of so many testimonials advertised in favour of the products and sometimes because he does not know what alternative he could prescribe in its stead. In tropical places like Madras the milk foods suitable to the infants from the first to the third month must contain only about 1·75% of fat. A few infants require products containing even a smaller percentage of fat.

Vitamins.—This is the age of vitamins. Hardly a day passes without one's receiving literature about the role they play in health and disease. Essential as they are, in the economy of nutrition, small amounts have been found sufficient for health. A well balanced food usually contains the necessary vitamins. These vitamins are available in concentrated form and there is apt to be a feeling that if they are not prescribed as such, the doctor is not uptodate. But it is better to administer vitamin-containing food products of definite nutritive and calorific value rather than the powerful concentrated vitamin preparations themselves. Vitamin A in concentrated form gives rise in feeble infants to irritation of the colon. I have had sufficient number of cases where the concentrated vitamin when given in amounts equal to that contained in 1 or 2 oz. of cod liver oil gave rise to mucus in stools and as soon as this was stopped the mucus disappeared. Vitamin A is found in generous amounts in cod-liver oil. The latter is easily assimilated and has a definite nutritive value and is one of the best forms of fat suitable for administration to infants.

Recent work has shown that vitamin D in high doses is definitely injurious. As regards vitamin A, though no evil effects have been so far reported in human beings, in animal experiments definite harmful effects have been noted. The object of speaking at length on the subject of vitamins is not to minimise their value on nutrition but just to emphasise the fact that they should be used with discretion and caution.

INFECTION AND NUTRITION

In infancy, preparing a properly balanced diet is of primary importance because the child requires comparatively more food for its maintenance and growth than the adult. In the nutrition of the infant the role of a properly balanced food cannot be sufficiently emphasised. There is one factor an important factor—which when present upsets the balance between food and nutrition and that is infection. If this infection affects the gastro-intestinal tract it causes gastritis, enteritis or colitis and thus interferes with digestion and assimilation. Therefore nutrition suffers. But what is not so obvious is the fact that infection elswhere by diminishing the general resisting power, or vitality of the child can reduce and in fact does reduce the assimilative power of the gastro-intestinal tract and a food which was nicely agreeing with the infant may be found suddenly to disagree for no fault either in its preparation or in its mode of administration. This is because of the onset of some infection elsewhere. The infection may be obvious in some cases; in others, a thorough investigation alone reveals the cause. This type of infection is called parenteral and the common forms are infection of the nasopharynx, middle ear, or the urinary tract. Unless and until this relationship between parenteral infection and digestion is recognised, the nutrition of the child is bound to suffer. Children whose only complaint is obstinate diarrhœa may refuse to react satisfactorily to the usual lines of treatment until the parenteral infection lurking either in the middle ear or sometimes in the pelvis of the kidney is suitably attended to. That is why it is common to find that bowel diseases in infants are associated with the so-called 'trifling' complaints elsewhere, the word trifling being used in the sense as it is understood by the mother, who fails to recognise the real significance of these conditions. Therefore in the problem of nutrition, the part played by the infection must be clearly understood. I have had failures in the bringing up of young infants in spite of balanced food because its attendant, be it the mother or often the grandmother, had a chronic cold and the infant suffered every now and then from coryza or bronchitis. It is no exaggeration to say that to the new born infant the common cold in the attendant or nurse may be frought with grave consequences. That is why masks are recommended to be worn while entering the wards where the new-born infants are looked after.*

*Lecture delivered at the Scientific Sections of the XIV All-India Medical Conference, Madras, December, 1937.

TREATMENT OF ACUTE APPENDICITIS IN INDIA

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The subject is very frequently discussed in England and other countries nowadays. In spite of so much progress made the disease is still responsible for abuot 3,000 deaths every year in England. Acute appendicitis is not so rare in India as is thought to be and its mortality is still very high.

Short History.—Though this is perhaps the commonest acute condition met with in the abdomen with the possible exception of complications of hernia it is surprising that it was absolutely unknown till the end of the last century. This name of appendicitis was first used by Fritz in 1886. But acute appendicitis should not be considered a new disease. It is probable that even the cavemen occasionally suffered from acute appendicitis. Previously it was covered by diverse clinical and medical terms; *e.g.*, gastric catarrh, gastric seizure, cramp of bowels, iliac phlegmon, etc. Moreover a large number of cases of peritonitis were no doubt examples of appendicitis, In olden days all cases which we now call appendicitis were treated in medical wards by starvation and by administration of calomel and morphia $\frac{1}{4}$ gr. each, every four hours.

In the early days of abdominal surgery peritonitis following operations was treated by aperients. The surgeons were encouraged to give and often repeat large doses of purgatives of the most active and turbulent character. When, therefore, abdominal distension and intestinal paresis were observed in cases of perityphlitis—appendicitis was known by this name—surgeons turned with enthusiasm and disastrous results were obtained by giving purgatives to procure relief.

A few words about the pathology of the disease will not be quite out of place at this stage as the treatment is based on the clear understanding of the changes taking place in the abdomen. In the early stages of appendicitis, there is inflammation of the surrounding peritoneum and the appendix is not shut off from the general abdominal cavity. The peritoneal surface pours forth a serous fluid which soon becomes cloudy and finally purulent. Later on, the inflammation is localized by the formation of adhesion. These processes vary in rapidity, degree and detail. They may stop at any point and undergo regressive changes. Along with these pathological changes, there are interference with intestinal function, reflex phenomena and systemic disturbances. The trend of these pathological changes is towards one of 3 terminations, *i.e.*, (1) subsidence and absorption, (2) peritoneal infection becoming generalized and (3) formation of local abscess. These are the pathological changes, any of which may be met with in cases of acute appendicitis.

The symptoms of this inflammatory type, are too well known to be discussed. Wilkie has drawn attention to another type of appendicitis—the obstructive type. There is strong evidence that fatal cases of acute appendicular disease are primarily cases of obstruction and not inflammation of the appendix.

The clinical symptoms and pathology of this kind differ widely from the inflammatory type. This type is characterised by pain continuous or at first colicky in nature but always severe and it is not accompanied by inflammatory symptoms such as fever, rise in pulse rate or rigidity.

As regards treatment, first the points on which all are agreed are stated and they are:

1. That diagnosis should be made as soon as possible and patients put in charge of a surgeon at the earliest.

2. Purgatives should be avoided. The effect of an aperient is to increase the secretion and muscular contraction and leads to perforation. Lord Moynihan said that for over 20 years he had not operated on a single case of perforation (excluding gangrene without perforation) in which an aperient had not been given. Therefore the most precious rule is to avoid purgatives. Deaths in acute appendicitis are too often "therapeutic". Unfortunately, this is very true of

the treatment given to patients with abdominal pain in India.

3. From a study of several thousand cases, it is found that operative mortality bears a definite relationship to the duration of acute inflammatory process prior to the time of operation and for practical purposes the duration can be measured in terms of days before the patient is operated upon. All are agreed in advocating removal of appendix in cases in which the disease is still limited to the appendix, *i.e.*, before perforation or before the onset of spreading peritonitis. This is roughly taken as about 48 hours. No one with experience of abdominal surgery will disagree with this policy. Appendicectomy under these circumstances is one of the most satisfactory operations in surgery. Mortality of this type of cases operated within 24 hours of onset is about 1% and from 24 to 48 hours—2 to 3%. Therefore, the sooner it is operated on, the less the danger.

4. It is also generally agreed that the patient who is first seen with signs of diffuse general peritonitis must also be treated by operation. If the condition of the patient is very grave and toxic on arrival a few hours' rest and general treatment, *e.g.*, subcutaneous saline, camphor in oil, etc., may improve his condition to enable him to stand the operation. Expeditious removal and suprapubic drainage are the best line of treatment but in any case the mortality is very high—20 to 25%.

5. When a case is seen from the first time late in the course of the disease and the disease is obviously subsiding, it is not necessary to interfere. Unfortunately, very few cases of this type come to our notice. Or if an obvious large abscess has formed, no one will dispute about the operation of opening the abscess.

6. Treatment of a case seen after 48 hours is the subject of controversy. There are definitely two schools of thought. It is probably correct to say that the majority of surgeons advocate immediate operation while others advise postponement of the operation. This expectant treatment was suggested as early as 1902 by Oschner and later on modified by Sherran. Advocates of delayed operation advise that most cases of acute appendicitis which are seen by the surgeon only after perforation and onset of peritonitis, local or spreading, no operation should be performed, until the patient's response to careful non-operative treatment in the hospital or the nursing home has been seen for some time. It is stated that 50 to 60% of these cases will settle down if carefully treated and the appendix can be safely removed after some time.

Details of Oschner Sherran treatment.—(H. Bailey). "In order to practise delayed treatment successfully, the surgeon must be a thoroughly trained diagnostician. If intra-peritoneal lesions normally requiring immediate operation cannot be definitely excluded, it is wise to operate. This treatment must be carried out on the threshold of the operation theatre by the surgeon himself for any time an operation may become imperative. In a civilized country, it should be criminal to attempt this treatment outside a surgical hospital or an equipped nursing home wih a staff trained in the method. A careful history is recorded and an effort is made to diagnose the position of the appendix. The patient is put in high Fowler's position and the following charts are kept, *viz.*, (1) pulse chart containing a 2 hourly, 1 hourly or even ½ hourly pulse rate. (2) vomit chart indicating the time of vomiting, its quantity and character. The diet will consist of only water for four days and all drugs by mouth are forbidden. Bowels are left confined if not opened naturally. Hot water bottle may be applied. The nurse in charge is to watch the patient and report immediately (a) a rising pulse rate, (b) vomiting, (c) pain, (d) diarrhœa and passage of mucus in stools.

A patient undergoing delayed treatment should not complain of pain as opposed to tenderness after 6 hours of treatment. If he does, there is something wrong and there is a strong indication for operation.

One of the most important duties in a case where this treatment has been successful is to ensure that the patient has his appendix removed in due course—generally after an interval of 2 to 3 months.

The following exceptions are made and immediate operation advised:

1. In the presence of hyperæsthesia presence of hyperæsthesia indicates that appendix is unperforated, (2) in cases of obvious general peritonitis, (3) in children, especially under the age of 8, (4) where a strong purgative has recently been ingested and (5) in cases where there is uncertainty of diagnosis.

The advocates of delayed treatment claim the following advantages: 1. Lower mortality rate, and (2) less danger of complications, *e.g.*, pyelophlebitis, subphrenic abscess, intestinal obstruction, etc. On the other hand the advocates of immediate operation recommend that the patient should be operated on immediately unless the attack is obviously subsiding or has formed a definite abscess which may be opened and drained. The operation does not necessarily mean formal appendicectomy. Each case is a problem by itself. The mobility and ease of delivery of appendix varies. In early cases with inflammation limited to the cæcum and appendix, it is easy. In late abscesses with fixed cæcum and appendix embedded retrocæcally, it may be so difficult that it would be dangerous to attempt removal. An experienced surgeon determined to remove the appendix at all costs opens up the retroperitoneal tissue and in a mess of blood and pus the inflamed appendix and cæcum are at last delivered and the patient dies of toxæmia or complications follow. It is recommended that in these cases the abdomen be opened over the site of maximum tenderness or over a palpable mass, if present. The appendix is removed if local and general conditions permit.

In an abscess no attempt is made to separate dense adhesions—a retrocæcal abscess densely fixed in the iliac fossa may be opened extraperitoneally or it may even be possible to shell out the tube of mucous membrane. If it is not possible to remove the appendix, it can be allowed to drain and settle down. The appendix can be removed sometime later. In all these cases the surgeon knows exactly the state and position of the cæcum and appendix and there is no danger of development of general peritonitis.

Having described in some detail the two lines of treatment the advantages and disadvantages of these are discussed especially with a view to their suitability to conditions prevailing in India. We have to examine the state of affairs as it exists in India to-day and not what one would like it to be.

The supporters of expectant treatment base their claims on: Increased mortality rate when operative treatment is adopted as compared with expectant treatment. It is said that in cases operated after 48 hours it is about 10% and it is claimed that in cases treated with expectant treatment mortality is about 5 to 6%. McNeill Love has produced data from the London Hospital in support of his claim. Statistics like high finance is really juggling with figures. From the same statistics Mr. Nuttal has shown that if the number of patients who were under 10 and who are obviously unsuitable for expectant treatment is taken out, the difference in mortality rate is practically nil.

Various other writers claim that there is really no higher death rate in cases operated on.

McNeill Love states that surgical interference appears to be practically dangerous between 3rd to 5th day. During this period natural immunity to infection is exhausted and acquired immunity has not yet been established, *i.e.*, he is in a negative phase. But there is no pathological evidence to support this view.

It is claimed that immediate operation is more frequently responsible for complications and sequelæ and that drainage is required oftener with consequent fæcal fistulæ, secondary abscesses and hernia. On the contrary several writers and surgeons claim that there is no more risk of these complications and have produced statistical evidence in support of this.

But to my mind, the most serious objection to expectant treatment is its impracticability especially so in India.

1. It is stated that this treatment must be carried out on the threshold of the operation theatre by the surgeon himself. It should be criminal to attempt this treatment outside a surgical hospital or a correspondingly equipped nursing home with a staff trained in this method. A case is quoted of a patient undergoing delayed treatment who collapsed on the 5th day and within 15 minutes gas and oxygen was given and drainage established suprapubically and locally. His condition was critical for several days. His case is enough to condemn this line of treatment. Now, how many places are there in India or shall we say in the Madras Presidency where suitably trained staff is available and where this treatment can be carried out according to the requirements, and details laid down by the authors?

2. The advocates of this treatment say that it is unsuitable for cases where a strong purgative has recently been ingested. It is a well known fact that

generally the first thing that is given to a patient with pain in the abdomen is a purgative. The number of cases that are seen before a purgative has been administered is extremely few; children, diabetics, old and feeble patients are all unsuitable subjects and this treatment is not meant for them. If there is any doubt about diagnosis, that patient is not a suitable case for expectant treatment. Therefore the number of patients who are really suitable for this kind of treatment is greatly reduced.

3. Another very important point about our patients is that they will not return for interval operation if they tide over an acute attack. As soon as his pain is relieved he is anxious to go home and will not be heard of again. Mr. Hamilton Bailey says that in the beginning only more than 5 per cent. of cases did not turn up for interval operation and now since 1926 by giving them prescribed printed card to be signed and posted, he finds that the results are good.

It is believed that 80 per cent of cases treated by expectant treatment recur and therefore it is imperative that the appendix must be removed at some later date.

A patient who has recovered with expectant treatment is sent out of the hospital and asked to come back for interval operation after say 2-3 months. He goes back to his village and forgets all about it. One fine morning probably when he is about 20 or 30 miles from the nearest railway station or nearest medical centre, he gets a recurrence. What is the treatment that he gets? The local hakim sees him, gives him castor oil, and greatly reduces his chances. Even if he is seen by a qualified doctor in a neighbouring village, he is advised to go to the district headquarters hospital, probably 50 miles away. He travels in a *jutka* or bullock cart or at best in a motor bus and somehow reaches the hospital after an exhausting jolting journey. What are his chances of recovery?

How many of such cases are occurring all over the country? Has any surgeon in this country who practises expectant treatment taken account of these cases? Does he include any of these mortalities in his statistics? No! They have died out of the hospital unknown to him and he is not interested about them. This treatment may be a good treatment in countries like England (most surgeons even doubt that) but in a country like India, where the patients are mostly uneducated people, who will not take the advise of the doctor, who live in villages miles and miles away from the nearest medical centre, in a country where the number of suitably equipped hospitals is so inadequate, where transport facilities are so primitive and inefficient, where more than one system of medicine is being practised and where quacks are allowed to ply their trade unchecked, are we going to send these patients out of the hospitals with 80% chance of recurrences and bad treatment? These we allow, because of the problematical and doubtful slightly higher mortality by operative treatment. Another danger lies in the fact that most of the text books favour expectant treatment and this treatment is practised in some big teaching institutions. The young qualified doctor has read these books and seen these cases. He is impressed by some recoveries, he forgets the limitations and essential requirements of the treatment and tries his hand with this treatment in the patient's home. Some of them recover but his eyes are opened only when he meets with disaster.

Teaching students not to practise this treatment while at the same time showing them patients treated in this way is like a man asking his son not to drink while drinking daily in his presence.

How impracticable and unsuitable the expectant treatment of acute appendicitis is for this country has been clearly shown.

The only way to reduce the mortality from this disease is:

1. teaching the students and practitioners to diagnose the cases early.

2. avoidance of purgatives.

3. admission of the patients to the hospitals as soon as possible.

4. and taking to operative treatment.

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S. THAMBIAH, M.C., M.R.C.P., D.T.M. & H. (Lond.), F.D.S. (Lond.).

The disease is essentially a chronic scaly dermatosis, subject to varying degrees of remissions and relapses. Though it is said that it is chronic, there are cases showing an acute exanthematic spread, or persistently chronic cases may show a generalised exacerbation of all the lesions. A recognition of this condition is essential as active treatment is contra-indicated and one should patiently wait till a subacut or chronic stage is reached.

Darier pointed out that all lesions in psoriasis are psoriasiform. Every one of the lesions, from the minutest speck to the largest plaque shows the characteristic silvery or asbestos-like scales on scraping with a Volkman's spoon or the back of a pen knife. If this is done carefully, a membrane, known as Bukley's membrane, will be brought into evidence. A glance with a magnifying lens will show scattered reddish points under this membrane. These are the attenuated papillary tips presenting an appearance of bleeding points. Nails will show pittings and distortions. They are not brittle as in onychomycosis. In severe cases nails show large bossings and pits. The hairy scalp is often involved in a patchy manner with a good deal of infiltration. Even in long standing cases alopecia is rarely seen.

This is one of the cleanest of skin diseases. The lesions hardly ever exudate, pustulate or ulcerate. On healing also they leave no scarring. Even the staining left on cure disappears rapidly without any special treatment. Except for slight itching in acute exanthematic type subjective discomfort is very little.

Aetiology

All leading text-books on dermatology group this disease under the heading of "undetermined ætiology". To be brief four theories have been advanced:—

(1) *The neurogenic theory*: This rests on very flimsy grounds. An antecedent or attendant history of headache, sleeplessness, and mental depression have been recorded. Some consider it a trophoneurosis.

(2) *The diathetic or metabolic theory*: An unknown toxin from faulty metabolism or malassimilation circulating in the blood gives rise to the eruption. Through Schamberg and his associates were able to demonstrate a nitrogen retention, the uric acid metabolism and the levels of calcium, magnesium, potassium and phosphorus in serum have persistently showed no variation.

(3) *Infectious theory*: Some consider that it is due to a fungus infection. Peripheral extension, clear cut margin and good effect produced by fungicidal or antiparasitic remedies go to support this theory. Bacteria from stools have been incriminated, but recent investigations cannot produce the required linking between the bacteria and the lesion. Ultramicroscopic infection has also been considered. Inoculation experiments with scales have been inconclusive. Amis and Stickler have, in a small group of cases investigated, been able to show the presence of lymphocytosis in over 50% of cases of psoriasis. This is an index of chronic infection the real nature of which will have to be settled later.

(4) *Endocrine theory*: The prominent feature in this disease is a disturbance in the process of keratinisation resulting in para- and hyper-keratosis. This state of affairs is considered to be due to a dysfunction of the thyroid gland or thymus or both. There are those who will implicate the whole of the endocrine system including the sympathetic nervous system. Richter's investigation went to show in a limited number of cases, that about 65% of the psoriatics suffered from some form of endocrine disturbance.

The present dermatological opinion favours the view of a toxin or an infection.

Psoriasis is no respector of age, sex, social ranks, climate or nationality. The youngest patient seen was a Brahmin girl of five years. There were a

number of patients who developed the disease after 60 years of age. Vegetarians and non-vegetarians have suffered almost equally. Tropical climate is not a deterrent factor in the causation or severity of the disease. It is not true that the disease is rare in the tropics. London and Edinburgh statistics show 7 and 8% respectively of all dermatological cases of the out-patient department as the incidence of psoriasis. Here in Madras our yearly percentage of incidence varies between 5·5 to 7%. As regards nationality, Brahmins, Muhammadans, Anglo-Indians, Europeans with long residence in the tropics, Pathans, etc., have all contributed their quota without notable variation. Most of our patients, except for the skin lesion, have been quite in good state of health. Constipation, sleeplessness and business worry have been to the fore in routine history elicitations. Six cases of rheumatoid arthritis, in this city, developed psoriasis one or two years after the establishment of the former. How far intestinal stasis contributes to one or the other condition can only be highly conjectural. That vegetarianism may greatly ameliorate the severity of the disease is also not borne by facts.

Treatment

Treatment may be considered under the following heads: (1) Diet. (2) General therapeutic measures. (3) Topical application. (4) Place of X-ray and (5) Relapse.

As already hinted, any form of dietetic restrictions is of no avail. If a person is inclined to take too much food at one sitting or has an unbalanced dietary, this may be looked into by the physician and satisfactory adjustment made. Schamberg held that a restriction in the protein intake may be helpful in that it diminished the amount of protein available for dialysing through the Buckley's membrane in the lesions. The scales are made up of pure protein. There are others who will restrict both fat and protein. Some physicians have recommended a carbohydrate restriction as it contributed to fermentation and faulty absorption from the bowels.

The numerous remedies that have been suggested and used in this disease will form a formidable list and this fact alone will show that we have no specific remedies. The treatment adopted in our clinic is briefly summarised without entering into a long discussion of things that are found in standard works. We have used a proprietary preparation known as Enesol. This is a salicyl mercury arsenate. Arsenic (Fowler's solution), mercury and sodii salicylatis have all been used singly in the treatment. In Enesol we have all the three reputed drugs combined in one. This is given intravenously every other day or twice a week. If one desires, it can also be administered intramuscularly. The former is preferable as the pain at the site of the intramuscular injection is done away with. Ten injections are enough in a case of moderate severity. In one or two bad cases of relapse, twenty injections have been given without any untoward effect. Aolan and sterile milk have been used instead of Enesol. 2½ to 5 c.c. were given intramuscularly twice a week, larger doses were put into the glutei. Doses larger than 5 c.c. will not be indicated. It has been observed that if the patient does not improve on 2½ to 5 c.c., larger doses have failed to effect any change. T. A. B. vaccine (curative) has given uniformly good results and this shock therapy has been used in many resistant cases. 20 to 30 millions intravenously may be regarded as a safe dose to begin with; the reaction will give an idea if the next dose is to be increased or decreased. If the fever and discomfort does not last over 24-36 hours, the next dose may be doubled and given after 4 or 5 days. Very often the first dose gives a good reaction and the subsequent ones do not produce such striking change. When there is a good reaction, the lesions become pale, infiltration lessens and lesions decrease in extent from the periphery. It is also observed that in a patient who did well on one form of treatment, when on relapse, the same line of treatment does not give such good results or the same results are not obtained when many injections are given. Psoriasis complicating rheumatoid arthritis was successfully treated by Crooke's collosal mercury sulphide with benefit on both diseases. Spacing of injections will be similar to Enesol and Aolan. Benefit has also been obtained in few cases of psoriasis arthropathica by injections or Scherings Cylotropin 5 c.c. injected intravenously bi- or tri-weekly.

Topical application helps in hastening the retrogression of the lesions. A drachm of crude tar dissolved in pure acetone will give a satisfactory paint.

This is painted on once or twice a day on all the lesions. The solution dries rapidly and does not badly stain the underwear. When scaling is profuse an alkaline bath may be used to remove the scabs or soap and hot water bath may be resorted to. Soap lather should be rubbed in and allowed to stay for 10-15 minutes and finally washed off in a warm water bath. 3-5% of chrysarobin ointment has been advocated, but the drawbacks are too many. A half to 1% cignolin in cold zinc cream is as effective and does not stain linen.

X-ray is useful in hypertrophic forms and produces rapid retrogression. This may also be applied to the scalp when the patient complains of itching and discomfort. The average dose is a sub-erythemal one; half an erythema dose is a correct average and may be given once a week.

Most of the treatment is effective in a particular attack and cure is effected in from 6 weeks to 2 months, but unfortunately relapse is the rule and one should expect it. As we have no knowledge of the ætiology of the disease relapses cannot be prevented. Again, as pointed out above, the same line of treatment will not be so effective and within the former period taken for a cure. The method of oiling the skin daily to keep away dryness of the skin to prevent relapse may at best be considered a placebo. Until we have a full knowledge of the ætiology of the disease, relapses cannot be prevented. Still more academic study and research are required to throw light on this subject.

Read at the XIV All-India Medical Conference, Madras, December, 1937.

RECENT VIEWS ON STREPTOCOCCAL INFECTIONS

S. P. GUPTA, M.D. (Med.), M.D. (Path.), Dip. Bact. (Lond.),
Lucknow

The present day classification of streptococci recognises streptococcus pneumoniæ (32 types), streptococcus fæcalis (nonhæmolytic), streptococcus viridans (green hæmolysis) and streptococcus of hæmolytic type divided into serological groups A, B, C, D, E, F, G and H. Group A (str. pyogenes) includes most of the pathogenic strain and consists of about 30 serological types. Of the 32 types of pneumococci types I and II are most common. Antipneumococcal serum has been found definitely useful for type I and less useful for type II and is of no use for type III. Streptococcus fæcalis and streptococci viridans are normal inhabitants of the bowels and throat. They are the cause of minor infections, occasional temporary bacteriæmia and conditions like malignant endocarditis.

In the diagnosis of streptococcal septicæmia ærobic blood culture should be done in at least 100 c.c. of glucose citrate broth with 5 to 10 c.c. of blood.

An anærobic medium should also be inoculated to catch anærobic streptococci. A quantitative method enables us to judge the prognosis and the progress of the case. The source of streptococci in puerperal fever has been found to be the throat of doctors, nurses and attendants. Streptococcal carriers should not be allowed near the delivery cases.

The recognition of 30 types indicates the uselessness of any stock vaccine or polyvalent anti-streptococcal serum therapy. Only type specific serum (not yet available) can be useful. Serum against scarlatinal toxin is useless except in scarlet fever (rare in India). Prontosil and allied compounds, are at present the only hope of the physician, and though every one talks highly of it, a scientific answer as regards its utility has not yet been given.

ALLERGIC DISEASES AND THE METHOD OF PREPARING EXTRACTS FOR DIAGNOSIS AND TREATMENT

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The idea of allergic diseases was conceived by Pirquet. Nowadays we understand by the word allergic an abnormal sensitiveness of any individual to certain substances which are usually harmless to normal individuals. Allergic diseases can be acquired by widely different substances (allergenes) or can be congenital. The most important characteristics of the allergic diseases are as follows:—

1. The deviation from the normal behaviour of the individual or the deviation of the behaviour of other individuals of the same species acquired by birth.

2. An individual may be specific for one or more substances.

3. The allergic reaction does not depend on the quality of the substances which produce the hypersensitive reaction.

4. The allergic condition is caused by the so-called anti-bodies or allergenes. The presence of these allergenes can be shown in the simplest manner by the passive transport of the reaction to a normal individual.

5. Allergenes have the ability to sensitise only susceptible individuals and the manifestation of symptoms occurs as a result of this hypersensitivity and is called allergy. The allergic condition is not only brought about by one definite substance but the same individual may be susceptible to several other substances.

It is suitable to divide the allergenes into the following groups:

1. Pollen from grasses and flowers.
2. Nutritives and medicines.
3. Products of animal skin.
4. Climatic allergenes.
5. Bacteriological allergenes.

On the human organism appear symptoms of hypersensitiveness on the skin, mucous membranes from the throat, nose and bronchi; the catarrh, hay-fever or bronchial asthma and sometimes rheumatic pains may be allergic complaints. The allergic diseases are more common in older people.

The agent which produces the allergic symptoms in an individual can sometimes be detected by careful enquiry into the history of the disease and observing the exact surrounding of the individual. Bottallus in 1565 first detected the cause of hay-fever and attributed it to the pollen. However, till the present day, the character of the reactive substance in the pollen is not definitely established. Skull, Cooke and Chobat show in their work that the pollen-allergy could be caused by some kind of protein and this view is supported by Weyland and Roke. But we do not know the exact site in the human body where inhaled pollen acts upon. There is some reason to suppose that the pH of the mucous membrane of the nose and the blood play a role in producing this reaction. The treatment must be given according to the cause of hay-fever. Hypersensitive individuals must avoid the blossom by moving to places which have little vegetation. It is possible to desensitise the human body with small increasing doses of extracts of pollen. The purpose is to accustom the body to tolerate more doses, *i.e.*, to make the organism produce larger quantities of antibodies, so that the pollens which enter through nose, eyes and mouth may not damage or cause injury.

The collection of the pollen is not simple because of their minute size. 1000 grains of pollen from *Erythr. centaur* weigh on an average only 0·0095 gms. in other words, one gram of pollen contains 105,260 pollen grains.

We hope to organize the collection of pollens in India so that it may be possible to prepare extracts

in the treatment of pollen allergic diseases. There are many methods of preparing the pollen extracts. One is described only as a typical example. One gram of pollen is run in a porcelain ball mill for 6 hours with 70 c.c. physiological saline (0·9% NaCl). The extract is taken out of the ball mill and the balls are washed with 30 c.c. physiological saline. The mixed liquids are filtered through a paper and then through a Berkefeld or Seitz filter. Then the solution is brought to a pH 7·4 and is filled in bottles or ampoules. Before filling, the extract is examined on agár plate to make sure that no bacterial contamination has taken place.

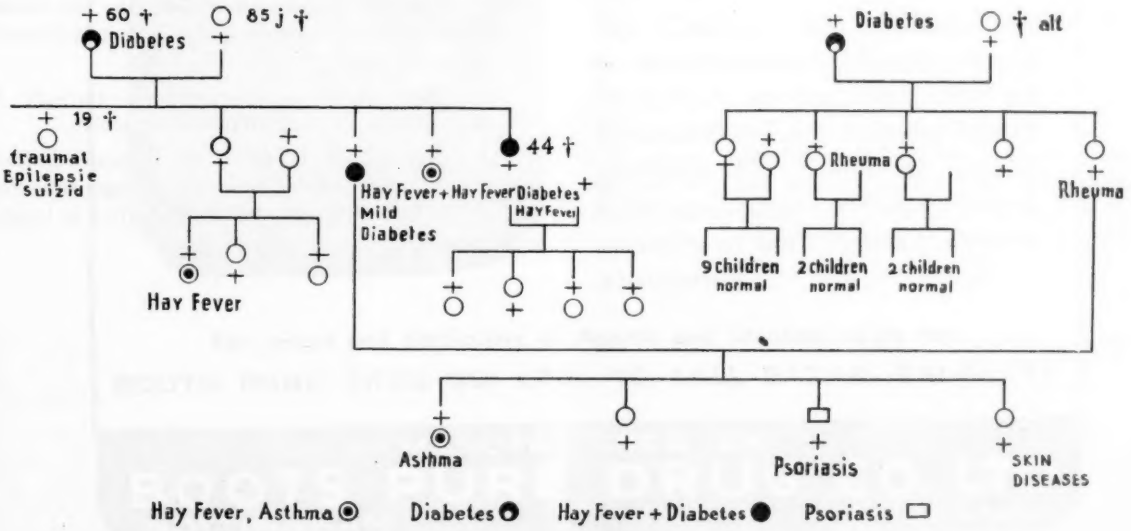
Allergic asthma, allergic skin diseases, rheumatism and gout can be caused by various bodies and they may also be acquired by heredity. In the latter case, the allergic disposition remains, but it may manifest in other forms. Diabetics generally are immune to allergic diseases. The accompanying scheme shows, however, an exceptional case which I got from my collaborating physician.

It will be seen from the above that the hereditary allergic disposition manifests itself as symptoms of different diseases. In asthma the presence of eosinophiles in the blood is characteristic. Prof. Friedric Von Muller describes the eosinophile cells as leucocytes in the body of which are found a number of rough fat like glittering granules which, when stained with eosine solution, show an intense red colouration. These eosine coloured granules are called acidophiles in opposition to the basophiles and neutrophiles. These eosinophiles are always present in the normal blood, but are variable between 1½ to 4% of the white blood corpuscles. In the blood of asthmatic people they are increased and are to be found up to 10% or more.

Allergic asthma can be caused by nutrition, *e.g.*, dust, mould fungus, bacteria, chemical substances and climatic changes. Allergic skin diseases (occupational dermatosis) are:

1. Occupational diseases acquired by sensitisation.
2. Skin diseases caused by drugs.
3. Occupation diseases caused by chemical, mechanical or thermal treatment.

The eczema of the baker, the eczema and dermatosis of the workman in the tanning and leather industry, the eczema of printers, photographers and lithographers, the wood eczema and the fruit eczema, the dermatosis caused by nickel coins, the chalk eczema of teachers, the eczema caused by washing material, the eczema found in those handling arsenic and benzene, the dermatosis of the bee-keeper, and the dermatosis caused by etherial oils or by artificial fertilisers, are few examples of occupational derma-



tosis. Eczema is also known to occur among masons, gardeners, dyers, men working with wool or animals, house-keepers of snakes, toads, alligators, etc. It is also found in those who handle alcoholic preparations and blood of animals.

It is possible that rheumatism, gout and neuralgia have their origin in allergy. In fighting against these diseases, we have the choice of either to exclude the allergenes entering the body or to desensitise the individual with preparations of substances that produce allergic reaction.

The preparation of these extracts undertaken in our laboratories and examined and approved by Dr. M. De Souza, M.D., (Bombay), will be used only when we are certain that they do not produce any abnormal reaction in at least 10 cases of non-allergic individuals.

A method for preparing the extracts is given below which we have used for many years in several towns in Germany.

1. Dust and similar materials which are collected for the preparation of the extracts are not necessary to be cleaned.

2. One part of the substance, of which the extract is to be made is mixed with 100 parts of distilled water and 0·5 c.c. of toluene.

3. The contents are put on a shaking machine and shaken for 24 hours at the rate of approximately 200 swings per minute.

4. It is then filtered in an ordinary filter and toluene is gradually added.

5. It is next dialysed in a dialysing apparatus with distilled water; the dialysate wash water should not show the presence of NaCl or ammonia. This must be tested several times after frequent changes of water.

6. The presence of NaCl is detected by $AgNO_3$. If NaCl is present, a white precipitate of AgCl is thrown on the addition of $AgNO_3$ to dialysate water. The precipitate is easily soluble in NH_4 but insoluble in HNO_3. For the detection of ammonia 2-5 c.c. of the dialysate water is taken in a test tube and Nessler's reagent is added. If there is a dark yellow or brownish colouration the presence of ammonia is indicated.

7. A measured amount of the dialysate previously filtered is thickened to a syrupy liquid in a vacuum distillation apparatus at a temperature not higher than 35°C. The extracts from dust and similar substances do not thicken to a syrupy liquid. The dust extracts must be thickened till they are reduced to 1/3 of the previous volume. For this purpose it is best to use an oil pump and a Woulfe's bottle cooled by ice.

8. To the thickened liquid is added 1/3 of the volume of freshly mixed coca solution.

9. The extract is now adjusted to a pH 7 to 7·3 with a Folien-Ionometer according to Woulfe, or by electric potentiometer, with quinohydron electrode. If the value is under 7·0, a solution of sodium carbonate is added drop by drop till the value 7·0 is reached. If the value is over 7·3 a diluted solution of acetic acid is added till the value of 7·3 is reached. It is good to dilute the acetic acid or the sodium carbonate solution a little more, if the values of the pH found lie near 7·0 or 7·3. On the result of this the remaining portion of the extract is treated with alkali or acid.

10. The extract is now filtered through a Berkefeld filter previously sterilized by steam.

11. The extract is filled in ampoules under sterile conditions. Each ampoule is approximately 1 c.c. The remaining portions are also filled in bigger ampoules.

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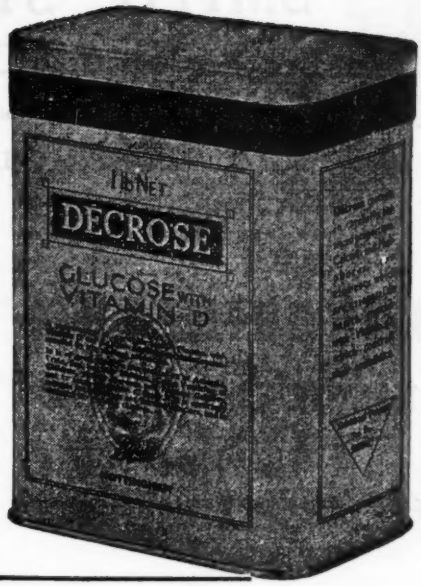

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SCIENTIFIC MEDICINE IN INDIA AND THE STATE

We have recently read two important discussions in the columns of two local contemporaries dealing with the subject of scientific medicine in India and its practitioners. Both articles bring out forcibly the fact that all is not well in this country with those who have taken the practice of scientific medicine as their life's work and a means of earning their livelihood. The chief causes responsible for the present deplorable condition of things, according to our contemporaries, appear to be threefold:—overproduction of doctors far in excess of the numbers required by those who can utilise their services; inability of the village population, consequent upon their extreme poverty, to absorb the surplus; and lastly, the absence of any restriction upon the practice of the quacks, the untrained and the so-called half-trained village-doctors. India is unfortunately one of those countries where death-rate from preventible diseases is appallingly high and which should, under normal circumstances, offer a very big field for the display of the curative skill of the physicians trained in the art of modern scientific medicine. And yet it is here that we are faced with the sorry spectacle of finding scores of young medicos trained in the most up-to-date methods of medical treatment going without any employment and living on the verge of semi-starvation. The solution of the problem evidently lies in formulating schemes which will bring the ailing and suffering millions of the countryside who, are nobody's care at present, under the skill and attention of those properly-qualified and efficiently-trained doctors who are leading a precarious existence in the overcrowded towns. It is easy to understand the reasons why qualified medical men cannot, under the present circumstances, settle in villages. These reasons are chiefly economic. But surely the State has a duty by those who maintain it; and, in the modern civilised world, one of the functions of every State is recognised to be to keep the nations of which it claims to be the guardian, in a condition of physical fitness. In that view of its duty let us examine how the State in this country has been discharging its function with regard to its obligations to keep the nation physically fit. The profession and its leaders have certainly a responsibility in this matter; but their efforts alone cannot solve the problem unless the State come to their help with its resources, both financial and legislative. The numerous instances of hospitals, dispensaries, clinics, teaching institutions, examination-centres and laboratories started and maintained by the honorary services of members of the profession in different parts of the country bear an eloquent testimony to the long record of selfless service rendered by pioneers and leaders of the scientific system of medicine in India. The annual conferences of the members of the profession under the aegis of the Indian Medical Association which meet at different centres of the country, afford an opportunity of discussing the various problems affecting public health in India that is fully utilised by practitioners from all provinces who, at great sacrifice of time and money, gather together on these occasions and express their considered opinion as to how these problems are to be tackled. They can only be expected to show the way

and offer co-operation to make the schemes they suggest a success. These they have been doing consistently for the last decade or more. They have been showing the way how the profession can be harnessed to the task of keeping the nation fit, how the surplus amongst them can be mobilised for meeting the demand in the countryside, how the profession can be protected against the unhealthy competition of the quack and the untrained and how supply should be made proportionate to demand. It is no fault of theirs if the State (both in the Centre and the Provinces) pays no heed to their suggestions and offer of co-operation, but, on the other hand, allows things to drift and come to a stage which can only be regarded as ridiculous by an outsider who sees the manifest anomaly in millions suffering for want of proper medical care and yet scores of properly-trained medical men having nothing to do and going without work. The absurdity of the situation should be appreciated by the authorities and they should, before long, devise means, in combination and helpful co-operation with the leaders of the profession, to prevent the colossal wastage that is taking place in the physical efficiency of the nation, on the one hand, and the professional efficiency on the other.

It will be in the fitness of things to present here a short summary of the Report on the British Health Services by PEP (Political and Economic Planning) which is "an independent, non-party group consisting of more than one hundred members who give their spare time to sociological studies." It has taken the group full three years to collect the data and material on which its report is based; and its findings shew clearly how the help, co-operation and services of the medical profession in the United Kingdom are utilised by the State, local committees and voluntary organisations in an attempt to keep the British nation in a state of physical fitness. " There are 19,000 insurance practitioners in Great Britain giving 50 million attendances a year; more than 5 million people participate in hospital contributory schemes. A thousand voluntary hospitals treat in a year 1¼ million in-patients and nearly five times as many out-patients. Nearly 500 convalescent homes help a quarter of a million persons to get fit after illness. More than 150,000 mental patients are maintained out of public funds. The health of the school-child in England and Wales is looked after by the equivalent of 700 wholetime doctors. Some 14,700 dentists make a valiant attempt to look after the nation's teeth and 8,000 district nurses bear much of the burden which the daily care of ill-health lays upon the community." Some calculations are given in the Report computing the annual cost of ill-health. "The 'bill' is stated to come up to £185 millions or 1/25 of the national income. In this total doctors and medicines, including State and State insurance contributions, as well as voluntary and private, account for £75 millions. On scientific research the State spends about £200,000, little more than one-tenth of 1 per cent. of the annual burden which medical research would help to reduce."

Let us now see what the Ministry of Health of the United Kingdom spent in the year 1936-37 on the preservation and restoration of health out of moneys raised by central and local taxation. "In 1936-37 central departmental administration cost £2,219,985. On national health insurance £34,200,000 was expended out of a revenue totalling £37,400,000, which contained an Exchequer grant of £5,925,000. The outlay included £6,868,900 paid to insurance practitioners in capitation fees, £204,000 for mileage, £190,000 for medicines and appliances supplied or dispensed by them, and sundry smaller sums for medical purposes. For objects, therefore, which are directly intended to promote health, rather more than thirty-six millions were spent through central channels in addition to grants to local authorities. On what is called public health local authorities disbursed £44,200,000 net (which included expenditure falling on Government grants), but this covered items like baths, wash houses, parks, and public conveniences which do not fall within the province of public health unless the term is used in a broad sense; while the cost of the school medical service and the very large organisation for the care of the sick under the poor law are not separately distinguished. The treatment of mental disease and deficiency cost about £11,800,000 and housing £16,800,000 net towards which grants amounting to more than fourteen millions were received from the Ministry. If the very substantial proportion of public assistance expenditure (totalling just short of £40,000,000) attributable to domiciliary and institutional care of the sick were added the local cost of sickness and the preservation of health might be estimated at about £100,000,000." What has been the return of expenditure of figures

of this order? The Ministry justifies the expenditure as being balanced by returns in the form of a healthier and fuller life for the nation. "The standardised death-rate has fallen from 13·0 to 9·2 per 1000 since the Ministry was constituted in 1919, the infant mortality per 1000 live births from 89 to 59. Even the maternal mortality rate was unusually low at 3·81 per 1000 live births. Since 1901-1910 the standardised mortality from pulmonary tuberculosis has been more than halved, while the rate for the non-pulmonary form is now actually little more than a quarter of what it was then."

We have quoted *in extenso* from these two important documents not in a fault-finding spirit but to show how the State in the U. K. is making rapid strides in its attempt to keep its people in a condition of physical fitness with the help of its health services and what should be done by the State in India to solve the problem on similar lines. The medical profession in India has always supported and will continue to support all efforts on the part of local and central authorities directed towards improving public health in the country. What it is waiting for is a lead from the State to harness its limitless resources in the preservation of national health and fitness in a carefully chalked-out strategic plan in the preparation of which the Indian Medical Association which represents the profession in the country, is always willing to lend its helping hand in conference with the central and provincial Ministers of Health and with local authorities who have shouldered health-responsibilities within their respective spheres. The outcome of such joint deliberation and action between the representatives of the profession and the State will be beneficial both to the nation as a whole and the profession in particular.

CURRENT MEDICAL LITERATURE

MEDICINE

Malignant Hypertension

Ellis (*Lancet*, April 30, 1938, page 977) in reporting on the observations made on 40 cases of malignant hypertension with post-mortem in the London Hospital during 1930-37 observes that there are two main groups of patients with hypertension, *viz.*, those with chronic diffuse nephritis on the one hand and those with essential hypertension on the other and the essential hypertension is of two forms, *viz.*, malignant and benign. Malignant hypertension shows papillœdema whereas the benign form does not and the group hyperpiesia should be restricted to the common benign form in which papillœdema is absent. In malignant hypertension there is generalised vascular disturbance of which the renal lesions are late and almost terminal manifestations. The post mortem findings in the kidney are (1) acute focal glomerular necrosis, (2) a severe albuminous degeneration and a typical hyaline droplet degeneration of the tubules, (3) fibrosis and cellular infiltration of the interstitial spaces and (4) acute artereolar necrosis and "endarteritis fibrosa". The arteries of other organs are similarly affected. Clinical features are: age 40-50 years, below 40 symptoms of hypertension, sudden attacks of headache and vomiting on waking in the morning, precordial pain and breathlessness with diastolic blood pressure of 150 or over, sudden failing of vision, enlargement of the heart and the liver, bilateral papillœdema with or without other signs of retinitis, moderate or marked impairment of renal function with increased nitrogen retention in the blood. Death with mixed renal and cardiac failure occurs in 6 months to 2 years from the date of first symptoms. Treatment is essentially of heart failure. Attacks of morning headache and vomiting are difficult to control. Aspirin and similar analgesia give some relief and when not relieved the intracranial pressure is lowered by lumbar puncture and intravenous hypertonic glucose therapy. If hypertensive cerebral attacks with convulsion and temporary paralysis occur venesection and morphine will be useful.

The Syndrome Of Extrarenal Azotemia

Jeghers (*Annals of Internal Medicine*, April, 1938, page 1861) writes that azotemia signifies an abnormal increase in nonprotein nitrogen in the blood and occurs frequently in clinical conditions other than those associated with organic kidney disease. This type of azotemia is extrarenal in origin and factors responsible for its production are: (a) fall in blood pressure, (b) hypochlorræmia and hyponatræmia, (c) dehydration, (d) increased protein catabolism, (e) loss of de-aminising power of the liver and (f) local renal factors. These mechanisms producing the syndrome are interdependent and interrelated and present in varying combinations in different diseases. Diseases associated with azotemia have been analysed with this concept in mind. In differentiating azotemias and in determining which of the basic mechanisms is present we must get the following minimum information, *viz.*, the systemic arterial blood pressure, 24 hours fluid intake and urinary output, measurement of fluid lost by extrarenal channels, urinary specific gravity, presence or absence of ketonuria, blood sodium, blood chloride, carbon dioxide combining power, total blood protein, erythrocyte count, hæmoglobin, hæmatocrit value and blood nonprotein and urea nitrogen. Two important facts stand out prominently and should remove the misconceptions which many of us have, *viz.*, that an elevated blood non-protein nitrogen does not always mean kidney disease and that the level of the blood in extrarenal azotemia is often very very high and has the characteristic feature of being developed quickly and disappearing also as rapidly when the disease is amenable to treatment. The rationale of the treatment of this condition consists of correction of the defect in the basic mechanisms responsible for its production, due consideration being also given to the underlying disease process. Besides replacement and supportive therapy, every effort should be made to prevent undue loss of fluid and electrolytes.

The Physical Basis Of Biliousness And Wind Round The Heart

Hurst (*British Medical Journal*, March 26, 1938, page 661) writes that a touch of liver or bilious attack may be caused by excessive use of alcohol, toxæmia due to habitual use of purgatives and all forms of food poisoning and intestinal infectioin including amœbiasis. Cirrhosis of the liver in its early stage is often missed. Migraine and biliousness is treated effectively by stimulation of biliary drainage with Epsom salt and olive oil. The author mentions ærophagy as the most common cause of wind round the heart but intestinal flatulence may be caused by carbohydrate dyspepsia though gastric ulcer, dislocation of the cardia and megacolon may be the responsible factors.

Overstimulation Of The Vagus Nerve In Rheumatic Fever

Keith (*Quarterly Journal of Medicine*, January, 1938, page 29) observes that the persistently high pulse rate and prolonged P-R interval wich are two diagnostic aids of rheumatic heart disease in young subjects are due to overstimulation of vagus. Injection of atropine definitely shortens the P-R interval as also the injection of adrenalin but the result is more conspicuous with the former than with the latter. The author believes that the abdominal pain and vomiting in absence of pericarditis, pleurisy or cardiac failure are due to overstimulation of the vagus. The site of stimulation is at the nerve ending rather than at the centre. Experimental observations in dogs reveal severe heart damage with areas of fibrosis in the myocardium following the administration of acetylcholine, the chemical transmitter of nerve impulse in the parasympathetic system.

Urticaria—A New Therapeutic Approach.

Rusk (*Annals of Internal Medicine*, April, 1938, page 1838) from the review of literature including experimental and clinical observations, writes that in skin irritability and skin inflammation the potassium metabolism is markedly altered, that potassium lowers directly the skin irritability and its pharmacological action is very similar to and definitely allied with epinephrin and as such potassium should be a valuable drug in the treatment of the œdematous lesion of the skin. In a small series of cases of chronic urticaria which were very refractive to other methods of treatment, a high protein, low sodium acid-ash diet with added potassium chloride (60 grs. daily) has produced so very promising results that this sound and fundamental therapeutic principle should receive further trial.

Heparin In The Treatment Of Thrombosis

Magnusson and others (*Lancet*, March, 19, 1938, page 664) reports of a case of thrombosis of the posterior inferior cerebellar artery (Wallenberg Syndrome) treated successfully with a standard 5% solution of heparin obtained from Vitrom, Stockholm, in daily doses of 150 mgm. for 5 days. The case improved rapidly and could walk in 3 months time without any assistance. Heparin is a mucotin polysulphuric ester produced by the tissue mast cells throughout the body and possesses the function of a physiological anticoagulant.

The Gold And Vaccine Therapy Of Actinomycosis

Neuber (*Wiener Klinische Wochenscrift*, Nos. 1 and 2, 1938) writes that "in order to invigorate the patients, to produce an accumulation of proctective substances and sensitization of the granulation tissue to the autovaccine or polyvalent actinomycosis vaccine (Serum Institute Dr. Papay, Budapest) which is to follow, they are given a total dose of 3·5 gm. Solganal B (Schering) in course of 4-8 weeks. One injection is given intramuscularly every 4-5 days, beginning with 0·1 gm. and if this is well tolerated, increasing gradually up to 0·5 gm.; a careful watch should be kept on the urine (albumin, cast, blood) and skin. In the meantime it becomes evident whether the preparation of autovaccine is possible or whether Dr.Papay's vaccine, which is prepared from 6-10 stocks, must be used. The instructions for use attached give detailed information. For biological early diagnosis 0·1 c.c. each of the undiluted vaccine and the dilutions 1:2, 1:5, 1:10, 1:50, 1:100 should be injected intracutaneously on the extensor side of the upper arm at distances of 2-3 cm. and examined after 24-48 hours for puncture, focal and general reactions. 10-15 injections suffice for a cure."

"The author has so far treated 62 severe cases of actinomycosis of all the various forms (intestines, lungs, bones, skin, etc.,) on whom every imaginable treatment had been tried; 5 of the patients died before

the treatment was begun; 5 very seriously ill patients were treated with convalescent serum only; all of them recovered (4-5 injections of 40-80 c.c. at intervals of 4-5 days). Of the last one had a relapse but there was no recurrence with any of those actively immunised. Definite focal reactions give promise of quick and certain cure. Unduly large doses counteract the results already obtained. Very debilitated anergic patients should first be treated with convalescent serum or transfusion of blood procured from persons who have just recovered or from convalescent of the same blood group and afterwards with gold and vaccine as above." (*Ars Medici*, April, 1938.).

SURGERY

Clinical Course And Pathology Of Burns And Scalds Under Modern Methods Of Treatment

Wilson and others (*British Journal of Surgery*, April, 1938, page 826) recognise five stages in the history of a severe burn, *viz.*, initial shock, secondary shock, acute toxæmia, septic toxæmia and healing. Initial shock is probably of nervous origin and is comparatively unimportant as only 5 out of 40 cases studied had low blood pressure. Secondary shock is akin to surgical shock and may be attributed to an early toxæmia. The skin is cold and clammy, lips, cheeks and ears are ashen grey, the rectal temperature is subnormal, the blood pressure falls and there may be thirst, vomiting and air-hunger, the degree of shock being proportionate to the amount of the surface damaged. Acute toxæmia may occur any time between 6 and 50 hours after the accident and is usually ushered in with vomiting sometimes with altered blood in the vomit, progressive and persisting hyperpyrexia; the systolic blood pressure remains normal, the diastolic often rises and the pulse pressure is diminished. It caused death in (13 out of 40 cases). Postmortem revealed focal necrosis in the liver. This liver necrosis was not found in cases which died earlier nor in cases which died later from sepsis but escaped toxæmia. In the acute toxæmic stage the culture of the blisters showed no evidence of bacterial invasion. There was no sign of anhydræmia and hypochloræmia and acidosis were inconstant. The authors noted that very superficial and very deep burns seldom give rise to severe acute toxæmia. Thus acute toxæmia in burns is quite different from secondary shock and from spesis and is due to a toxin produced in the injured tissues which when absorbed damages the liver cells. Efficient tannic acid treatment combined with intravenous glucose is the best preventive.

Serum Transfusion For Shock

Bond and Wright (*Annals of Surgery*, April, 1938, page 500) write that though opinions often differ as regards the exact mechanism of traumatic shock there is general agreement regarding the end result and this is marked lowering of the blood pressure due to reduced blood volume which again is caused evidently by loss of plasma. From experimental observations (in dogs) the authors found serum transfusion superior to that of other transfusion fluids, *e.g.*, saline, blood, etc. They used dried serum which was redissolved in water before use (it is termed "lyophile" because of its easy solubility). Very good results were also obtained in acute hæmorrhage though the whole blood transfusion is considered ideal in such condition. The advantages of serum transfusion are that the serum keeps indefinitely and is easily available.

Carcinoma Of The Palate

Nuthall (*British Medical Journal*, April 16, 1938, page 839) in reporting on the investigation in the Manchester Radium Institute of 167 cases of malignant disease of the palate writes that 94% of the lesions of the middle third of the palate spreading on to the alveolus and into the alveo-labial sulcus involved the maxillary antrum (the typical antral site) and that lesions of the other usual palate site (posterior part of the hard palate spreading on to the soft palate and fauces) did so in only 1·4% of the cases. X-ray alone is conclusive but this is true when it is positive. Negative result should not be relied on and this is also true with the "needle test". Intra-oral ulceration is by far the commonest evidence of antral neoplasm.

The Causes Of Hæmorrhage From The Rectum

Lockhart-Mummery (*British Medical Journal*, May 7, 1938, page 997) writes that any bleeding from the rectum whether small in quantity or not, calls for immediate attention and should never be neglected. The commonest cause of rectal bleeding is in-

ternal piles which forms practically two-thirds of all the cases of bleeding from the rectum. The blood usually drips or squirts after the bowel has been relieved and an examination of the rectum with a speculum will settle the diagnosis. The next commonest cause is carcinoma: here the blood is generally mixed up with the stool instead of being passed after it (as is usual with the piles), its amount, as a rule, is not considerable, it is often present only intermittently and occasionally it is ushered in with a sudden and severe rectal hæmorrhage: the diagnosis is made by the rectal examination with finger, sigmoidoscope and lastly by X-ray (only when digital and sigmoidoscopic examinations are negative). Benign adenoma of the rectum sometimes causes hæmorrhage and the tumor is often missed by an untrained hand as it is soft and velvety but can easily be seen through a speculum. Peptic ulcer when bleeds usually causes a tarry stool or melæna but if the bleeding is very large and occurs rapidly and the bowel is not loaded the blood passed through rectum is bright red. A very rare and obscure cause of rectal bleeding is a peptic ulcer in a Meckel's diverticulum. Angioma of the rectum or sigmoid is a congenital condition and when bleeds is always fatal. Local injury to the rectum, ulcerative and hæmorrhagic colitis, an infection by bilharzia hæmatobia (in Egypt) are some of the causes of rectal bleeding. Blood pressure as a cause of profuse bleeding from the rectum should always be remembered. Hæmorrhage from the rectum may also complicate operation on the rectum. The bleeding is controlled by plugging the rectum, either with the glove finger method or tube method. The latter method is superior and is as follows:

"The first thing to do when bleeding of any consequence is noticed is to pass a short piece of rubber tubing, about three-eighths of an inch in diameter and three or four inches long, through the anus. The tube should have a safety-pin or a piece of thread through the outer end to prevent it slipping entirely into the rectum. If the bleeding is coming from some small vessel this simple procedure will generally stop it, and if the bleeding is more serious the tube will allow the blood to escape and not to accumulate in the rectum: in other words, the tube will prevent a concealed hæmorrhage. If the bleeding restarts after a few minutes it is clear that it is not under proper control, and the surgeon should proceed to pack the lower end of the rectum. As a rule this can quite well be managed without an anæsthetic if done by the following method. A piece of rubber tube about six inches long and three-eighths of an inch in diameter is taken and a thin strip of dry gauze about an inch wide is wrapped tightly round one end in a figure of 8, so as to form a bulge; this should be just small enough to be pushed through a tubular speculum. The speculum is well greased and is passed into the rectum; the tube with the bulge at one end is then pushed through the speculum until the bulge is above the speculum and the latter can be removed. The bulge of gauze on the tube will now be in the rectum and the end of the tube protruding from the anus. When the tube has been drawn down as far as it will come a large safety-pin is put through it about one inch from the anal opening. A long stip of gauze is then wrapped round the tube, outside the anus but inside the safety-pin. As this wrapping increases it will tend to pull the gauze bulge on the other end of the tube hard down against the bleeding-point, and if properly done this will at once stop the bleeding. The plug should be left in place for forty-eight hours, the patient being given morphine if he feels much discomfort. Should the bleeding restart it will at once be evident, as fresh blood will come through the tube."

Treatment Of Post-operative Retention Of Urine

Barber (*Irish Journal of Medical Science*, February, 1938, page 68) writes that disturbance of the bladder musculature, alteration of the position of the bladder itself and psychic factors are responsible for bladder dysfunction following operations. Amongst the useful drugs in the condition are urotropine, cylotropine, esmodil, mecholyl and doryl. Esmodil is trimethyl-methoxypropanyl-ammonium bromide and has a direct action on the muscles of the bladder. 1 c.c. of a 0·3% solution is given intramuscularly and is followed by a desire to micturate. The tonic contractions last for several minutes and there is a complete absence of harmful effects. If there is no spontaneous micturition in half an hour a second injection of half the original amount is given. The drug should not be given intravenously as such a procedure causes pain in the bladder. Mecholyl (acetyl-β-methyl choline) is a powerful diuretic and has a parasympathetic stimulating action when given subcuta-

neously in doses of 5 mgm. or orally in still larger doses. Doryl is a similar product and produces results in 15 minutes but some reactions in the shape of nausea, faintness, fall in blood pressure are produced by its use.

PATHOLOGY AND BACTERIOLOGY

Pulmonary Changes In Rheumatic Fever

Melnick (*Illinois Medical Journal*, April, 1938, page 336) reports on the post-mortem findings in the lungs of 6 cases of acute rheumatic fever. Macroscopically the lungs have a boggy or rubbery consistency, the cut surfaces are dry having no fluid in the air sacs and reveal wide bands which look deep red and firm with the consistency of spleen tissue, *i.e.*, focal areas of "splenization". Microscopically there is an intense hyperæmia and a proliferation of the septal cells. The alveolar walls are greatly thickened upto 10 or more times the normal. The capillaries on the alveolar wall are markedly dilated and the wall itself shows increased cellular reaction. The process is seen specially intensified in focal areas of splenization in some of the cases: moreover in those areas the pulmonary artery shows swelling and vacuolization of the endothelia. This process of vascular reaction backed up by cellular proliferation is not due to passive congestion caused by myocardial weakness or valvular defects as it is chiefly focal; it is not a simple inflammatory reaction because there is no bacteria and no necrosis; it is probably one of the allergic phenomenon which occurs in acute rheumatic fever.

Origin Of Cancer

Cramer (*British Medical Journal*, April 16, 1938, page 829) considers the problem of cancer under two phases, *viz.*, (1) the phase of transformation of a normal cell into a malignant one by influences from without—this phase represents the origin of cancer and extends over a long period of time and hence the characteristic age incidence of cancer and (2) the phase of autonomous growth of the malignant cell in absence of any agent acting from without—this represents the growth of cancer. The principal causes are (1) remote cause comprising not only the carcinogenic agents but also the factor of susceptibility—this represents the origin of cancer and (2) proximate cause—that is the growth of cancer. Thus from the point of view of the proximate cause, *i.e.*, its growth cancer may be regarded as a single disease but from the point of view of the remote cause, *i.e.*, its origin, cancer is a multiplicity of diseases.

The author deals with prevention of cancer and gives 3 examples of a type of growth amenable to preventive measures, *viz.*, (1) association of hypochromic achlorhydric anæmia with cancer of the mouth and œsophagus and this is preventible; (2) liability to cancer of the breast is so much greater with positive family history that special precaution can be taken with greater benefit under surgery and the new hormone treatment; (3) Stevenson's work reveals that cancer in exposed sites is conditioned by external causes and depends less than any other type of growth on inherent susceptibility and these external causes can be easily prevented. The author stresses on a "follow-on" system to cancer patients in which the development of the disease is traced down to its origin.

Observation On The Dysenteric Conditions Among Europeans Of Calcutta

Trivedi and De (*British Medical Journal*, May 7, 1938, page 1000) in reporting on the observations on the dysenteric condition among Europeans of Calcutta over a period of from 1930-37 note that the prevalence of infection is more or less constant with very slight period of rise and fall so that the factors responsible for the disease are constantly present. There is no definite seasonal correlation with the disease among the Europeans as is found among the Indian population. All the sources of infection are discussed and the probable disseminators seem to them to be carriers among the Indian menial staff. The stool examination revealed a great preponderance of the bacillary infection, specially of the Flexner type. Other organisms responsible were Ps. pyocyanea, Bact. morgani, B carolinus and B fæcalis alcaligenes. There were also some cases which are termed "non-specific" because though they showed in their stool mucous and cellular exudate, etc., there was found no amœba nor was there any bacteria isolated on culture. Regarding the amœbic infection the authors note that the parasite is sometimes found in specimens where the physician has hardly any suspicions of it and in which the appearance of the stool is not in the least suggestive of such an infection. The parasites in some cases persist tenaciously in the alimentary

tract. They further note that amœbæ lose rapidly their mobility and disintegrate when the stool is kept exposed to cold atmosphere and that the association of Charcot-Leyden crystals with amœbiasis seems to be slight.

TROPICAL MEDICINE

Pulmonary Tuberculosis And Kala-Azar A Fatal Combination

Napier (*Indian Medical Gazette*, April, 1937, page 242) points out that kala-azar in presence of pulmonary tuberculosis is a very serious condition in as much as the antimony treatment aggravates the lung trouble and cannot be continued with safety. He reports 2 illustrative cases.

Treatment Of Plague Cases With Convalescent Serum

Norman-Walker (*Indian Medical Gazette*, August, 1937, page 469) reports on the successful treatment of plague by injections of human convalescent serum obtained after the temperature has been normal for 10 to 15 days. 20 c.c. of the serum was used daily for three consecutive days in 48 cases with a mortality rate of 16·7% whereas in the control group of 48 cases the mortality rate was 47·9. Arrangements for storing convalescent serum are now being made.

Wassermann And Kahn Reactions In Relapsing Fever

Pai (*Clinical Medical Journal*, October, 1937, page 595) reports on the result of W. R. and Kahn test in 13 nonsyphilitic cases of infection with spirochæta recurrentis. Five gave positive W.R. in the febrile stage and one during afebrile period between relapses. Only one case gave strong positive Kahn test and another only a weak reaction. Three treated and four untreated cases were negative after a single dose of specific injection.

PEDIATRICS

Treatment Of Meningococcal Meningitis With Sulphanilamide

Crawford and Fleming (*Lancet*, April, 1938, page 987) report on the treatment of 10 cases of meningococcal meningitis with sulphanilamide. The cerebrospinal fluid became sterile in all the cases. Four of the patients were under one year and one of them died and all the six patients over six recovered whereas in a series of thirty treated with serum only four recovered (nineteen were infants under one and all but one died). Intrathecal administration of 1% solution of sulphanilamide was found of value in cases in which the cerebrospinal fluid does not rapidly become sterile, in cases which became intolerant to the drug given by intramuscular injection and in cases in which meningeal symptoms do not clear up rapidly.

Indications For Blood Transfusion In The Newborn

Babonneix (*Gazette de Hopitaux*, February, 23, 1938, page 225) deals with the indications for blood transfusion in the new-born under two heads *viz.*, essential and secondary. Essential indications are serious icterus of the newborn and young infant, hæmorrhagic syndrome, and some forms of acute anæmia. Secondary indications include most of the infections occurring in early infancy, erysipelas, septicæmia of otitic origin. Blood transfusion is contraindicated in extensive pulmonary lesion, asphyxia, hypotension, tachycardia, splenohepatomegaly. In capillary bronchitis blood transfusion is useful particularly when care is taken to withdraw a larger amount of blood than that injected. Blood transfusion may also be of great help in such conditions as malnutrition, congenital debility, pyloric stenosis, refractory vomiting, etc. In these conditions it is better to follow it by intravenous glucose saline by drop method.

The Variability Of The Kahn Reaction

Rothbart (*Journal of Pediatrics*, 11: 1937, page 484) observes that out of 6,500 patients seen in a new pediatric clinic 12 (0·2%) non-syphilitic children showed a positive Kahn test on one or more occasions. There were no clinical stigmas of syphilis neither could positive family history of infection be elicited. The author points out that one should not hastily diagnose a case to be syphilitic only on the basis of positive serology with no other evidence to support the diagnosis and he advises in such cases that the serological test be repeated at frequent intervals before any antisyphilitic treatment is begun.

PYELITIS IN CHILDREN

Moncrieff (*Practitioner*, October, 1937, page 449) advises in the acute febrile stage the alkaline mixture and reserves mandelic acid therapy for chronic cases. The following mixture is useful:

Ammonium mandelate	26 grains
Liquid extract of liquorice . . .	5 minims
Elixir of gluside	1/5 minim
Water	to 60 minims

Dose: Up to 6 months—60 minims, three or four times a day; 6 months to 2 years—60 to 150 minims, three or four times a day; 2 to 5 years—150 to 240 minims, three or four times a day; 5 to 12 years—240 to 360 minims, three or four times a day.

For proper acidifying the urine which is essential for the success of mandelic acid treatment the following prescription is useful:

Ammonium phosphate . . .	7½ grains
Liq. ext. of liquorice	5 minims
Acid syrup	15 minims
Aqua	to 60 minims

Dose: 2 to 8 teaspoonfuls daily.

ASSOCIATION NOTES

Minutes or proceedings of Branches and Affiliated Societies intended for publication should be sent to the General Secretary of the I. M. A., Samavaya Mansions, Calcutta—EDITOR.

BENGAL PROVINCIAL BRANCH

Proceedings of a meeting of the Bengal Provincial Council of the Indian Medical Association held on Wednesday, the 27th April, 1938, at 7 P.M. at the Association Hall, at 67, Dharamtala Street, Calcutta.

Members present:—

Drs. A. D. Mukherji (in the chair), T. N. Ghosh, H. P. Bhattacharyya (Sonarpur), P. C. Roy, B. K. Ghosh (Barrackpore), P. K. Guha, N. C. Ghosh, Capt. K. K. Ghosh, Drs. B. N. Ghosh, J. C. Banerjea, K. K. Sen Gupta, K. C. Chaudhuri, Jibananda Mukherji (Howrah), M. Chatterjee (Howrah) and Subodh Datta

1. The proceedings of the last meeting were read and confirmed.

2. The statement of accounts for the last month of March, 1938, was inspected.

3. The letter No. L. 1834, dated, 20th January, 1938, from the Government of India, Department of Labour, forwarded by the Government of Bengal, re: Government recruitment and unemployment, was placed before the meeting.

Resolved that this Association is of opinion that it is desirable to have a competitive test at the age of 18 years, success in which would be necessary but not sufficient condition for entrance into Government employment.

Resolved further that there should not be any system of restricting entrance for the test, for the first few years.

4. The letter from the Secretary, Jalpaiguri Branch, re: formation of branches in the Dooars area of the Jalpaiguri District, was placed before the meeting. Resolved that the Secretary of Jalpaiguri Branch be requested to supply this Council with the approximate amount of expenses likely to be incurred in connection with the travelling etc., and that the consideration of the matter be postponed till a reply is forthcoming from the Secretary, Jalpaiguri Branch.

5. The letter dated, 29th, March, 1938, from Dr. Rabindra Nath Maitra of 6, Shyamacharan Maitra Lane, Barnagore, Calcutta, re: formation of a branch at Cossipore, was placed before the meeting. Resolved that this Council do not feel the necessity of organising a branch of this Association at Cossipore which is within the area of the Calcutta Municipality. Members residing at Cossipore may join the existing Calcutta Branch.

Resolved further that Dr. Maitra be requested to form a branch at Barnagore with local members within the said Municipality.

6. The resolutions passed by Baruipur-Rajpur Branch as contained in their letter dated, 2nd. March, 1938, re: prescribed rate of fees payable to a medical practitioner for attendance as a witness in a court of law, were referred to the sub-committe formed at this Council meeting held on 29th March, 1938.

7. The formation of a branch at Rajbari (Faridpur) was recorded. With a vote of thanks to the chair, the meeting came to a close.

SUBODH DATTA, *Chairman.*

K. K. SEN GUPTA, *Jt. Hony. Secretary.*

KHULNA BRANCH

REPORT OF THE YEAR ENDING 31ST DECEMBER, 1937.

President—Dr. Nagendranath Bhattacnaryya, B.SC., M.B.

Vice-President—Dr. Murari Mohan Basu, M.B., D.P.H.

Secretary and Treasurer—Dr. Pulin Krishna Das, M.B.

Asst. Secretary—Dr. Kali Pada Poi, L.M.F.

Executive Committee—The above four office-bearers and Drs. Narendra Nath Ghosh, late Capt. I.M.S., Civil Surgeon, Ananta Kumar Moulick, M.B., Surendra Nath Ghosh, L.M.F., B. Chakravarty, L.M.F., D. L. Sen Gupta, M.B., A. Chakravarty, M.B. and Kali Pada Banerjee, M.B.

Representative to the Central Council—Dr. Pulin Krishna Das, M.B.

Representative to the Provincial Council—Drs. D. L. Sen Gupta, M.B. and Kali Pada Poi, L.M.F.

Number of members at the beginning of the year—12.

Number of members at the close of the year—17.

This branch was started on the 30th May, 1937 and at least one meeting of the Executive Committee was held every month. Three sub-committee meetings were held. A social gathering was held on the occasion of the *Bejoya Dasami* in which an appeal was made to all qualified medical men to enlist themselves as members. We have framed our own rules and regulations consistent with those of the Provincial Council and have sent appeals along with those rules to all qualified doctors in the district.

In the first Bengal Provincial Medical Conference held in November, 1937, Dr. M. Basu, Capt. N. Ghose, Dr. P. K. Das and Dr. K. Guha very aptly spoke on the subject of Rural Medical Relief in Bengal with particular stress upon Khulna District.

This branch is making a steady progress.

KALI PADA POI,
for Secretary.

U. P. PROVINCIAL BRANCH

Proceedings of a meeting of the Working Committee of the I. M. A., U. P. Provincial Branch, held on Thursday the 2nd June, 1938, at 6-30 p.m. in the Garvie Medical Library Rooms, Town Hall, Meerut.

Members present—

Drs. S. Haldar, of Muzeffarnagar Vice-President—in the chair, S. N. Banerji, Meerut, R. C. Chaurasia, Meerut, R. C. Mitter, Meerut, Bhupal Singh, Meerut, C. B. Vyas, Meerut and R. N. Bose, Meerut.

1. Proceedings of the last working Committee meeting were read and confirmed.

2. Accounts for the period 1-11-37. to 31-5-38. were put up and passed.

3. The Report of the Sub-Committee appointed under Resolution No. 8 of the Provincial Council meeting held at Benares on 17-10-37 was read and noted.

4. Consideration of ways and means to secure official recognition of I. M. A., U. P. Branch as a body to be consulted by the Government, in all matters concerning medical aid, health, sanitation and all other medical problems, of these Provinces.

Resolved that the Government be approached with a request that this Provincial Branch of the Indian Medical Association, a registered representative organisation of the medical profession, including, the services as a whole in India, be officially recognised as a competent body to tender advice to and be consulted by the Government in all matters relating to and affecting the medical profession, including public health in U. P.

5. Consideration of the addition of the following words in Rule 11 of I. M. A., U. P. Branch, in line 8 after the words "if any":—"Provided that nothing is done in contravention of the Rules of the Indian Medical Association (Central) or is calculated to be against the decision or directions of the Central Council."

Resolved that the addition proposed to Rule 11 be accepted.

6. The formation of the following 3 Branches, *viz.*, (1) Firozabad, (2) Ghaziabad, and (3) Roorke were noted.

7. The Provincial Secretary reported that Bareilly, Budhaun, Etawah and Aligarh Branches have not yet paid their Central Fund contribution and have not responded. Resolved that another effort be made to induce them to continue.

With a vote of thanks to the Chair, the meeting dissolved.

R. N. BOSE, *Hony. Provincial Jt. Secretary.*

S. HALDER, *Chairman.*

DEORIA BRANCH

The 6th monthly general meeting of the year was held on 23rd April, 1938, at the residence of Dr.B. N. Sahai, 19 miles from Deoria. The Vice-President Dr. S. C. Acharya was in the chair.

The house was nearly full. Several resolutions were passed: (1) appreciating the services of Dr. S. L. Vidyarthi, M.O. in charge of the Deoria Dispensary and requesting the Government to give him a permanent lift in the P. M. S., (2) appreciating the services of Dr. I. P. Gupta, A.M.O.H., for his untiring zeal and hard labour in successfully arresting the epidemic of plague in Deoria and Sub-Division in the shortest time possible, (3) asking the notified and town areas to take necessary precautions against the stray rabid dogs and opening an anti-rabic centre at Deoria, and (4) in connection with the village uplift movement, requesting the Rural Development Officer, of the Government of U. P., to pay special attention in matters of birthrate statistics, maternity, health of infants and pre-school children, rational feedings, milk hygiene, hereditary diseases, social scourges, alcoholism, dirty habits, tuberculosis, venereal diseases, the care of the eyes, ears, nose, throat and teeth, first aid, health propaganda and moral education etc.

The Secretary then informed the house that this association has taken up the work of helping the U. P. Provincial Branch of I. M. A. in the formation of new branches in this district where there are none and increase its members.

Dr. K. P. Saksena, M.B., B.S., D.P.H. read a paper on the 'Prevention of Malaria'.

Dr. B. N. Sahai was 'At Home' to the members after the meeting.

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In a Special General Meeting held on 23rd April, 1938, at the residence of Dr. B. N. Sahai, Dr. S. C. Acharya, L.M.F. was elected President in place of Dr. S. S. Misra, resigned on account of his transfer from Deoria, and Dr. S. L. Vidyarthi, M.S.M.F., P.S.M.S., the Vice-President.

* * *

The 7th monthly general meeting was held on 21st. May, 1938, at the residence of Dr. S. C. Acharya. The President was in the chair.

Two resolutions were passed unanimously (1) requesting the Hon'ble Minister in charge of the Department of Public Health to enact effective legislation for making the sale of adulterated fats like 'Vegetable Ghee', 'Vegetable Products', 'Banaspati', 'Cocogem' etc., similar to ghee in appearance with which the market is over-flooded, and (2) requesting the Hon'ble Minister in charge of Medical Department to arrange for the reconstitution of the U. P. Provincial Council in such a way that the system of nomination may be abolished, joint electorate with reservation of seats for the medical graduates and licentiates may be introduced and the whole administration of this body may be placed under the control of the popular representatives.

Dr. Acharya was 'At Home' after the meeting.

S. N. MUKHERJI,
Hony. Secretary.

TINNEVELLY DISTRICT MEDICAL ASSOCIATOIN

The monthly meeting of the Tinnevelly District Medical Association was held at Mangalagiri, (Rural Reconstruction Centre near Tuticorin), on the evening of Saturday, the 4th May, 1938, under the Presidentship of Lt.-Col. T. S. Shastry, I.M.S. Forty-one

members were present. Some private practitioners of Tuticorin also attended the function.

The Secretary read the minutes of the Joint Meeting of the Travancore Medical Association and The Tinnevelly District Medical Association held at Cape Comorin, on the 23rd of April, 1938, which were passed. He read a letter received from Dr. Mrs. Poonen Lukose, B.A., M.B.B.S., (London)., L.M. (Rot)., M.C.O.G., Surgeon-General, Trivandrum, offering her sincere thanks to the members of the Tinnevelly District Medical Association for their passing a resolution congratulating her on her appointment as Surgeon-General, Travancore State.

Dr. D. Kribaimani, L.M.P., Sub Assistant Surgeon, Government Hospital, Tuticorin, read out case notes on epileptoid state which was successfully treated at the Government Hospital, Tuticorin.

Dr. P. S. Srinivasan, L.M.P., Sub-Assistant Surgeon, Government Hospital, Palamcotta, read out notes of the following interesting cases which were treated and operated at the Head Quarters Hospital, Palamcottah:—

1. A case of sarcoma left hand.

2. A case of tumor fore-hand—secondary growth—metastasis—thyroid cancer.

3. A case of epithelioma back of knee.

The cases were fully discussed by the members and the President summed up the salient and important features of all the cases.

Lt-Col. T. S. Shastry, I.M.S., congratulated Drs. N. Isaac, L.M.P, and L. Mahadevan, M.B.B.S., (Madras)., D.O.M.S., (London)., for their election as Councillers of the Palamcottah Municipality. He also congratulated Mr. J. L. P. Roche Victoria, M.L.A., on his election as Chairman of the Tuticorin Municipality.

Colonel Shastry suggested to the members the opening of an institute of deep X-ray therapy on co-operative basis by the members. He also suggested to Mr. Roche Victoria to work for the donations for the installation of a radium institute. He thanked Mr. Roche Victoria for his kindness in organising the function at Mangalagiri, and playing the host.

An excellent dinner brought the happy gathering to a close.

K. RAMA AYYAR
Secretary and Treasurer.

JULLUNDUR BRANCH

The 8th anniversary of the Punjab Medical conference shall come off at Jullundur City under the auspices of the Indian Medical Association. The object of the Conference is not only to promote the interests of the medical science as such but to enable this profession to occupy the same position of the importance and public esteems as it does in European countries and to devise means to remove all those handicaps under which it is labouring at present in this country.

It is hoped and requested that the response of the medical practitioners will be proportionate to the magnitude of the occasion. The date and the programme of the session shall be shortly announced.

All the members are cordially invited to attend and make it a brilliant success.

HANS RAJ SUD,
General Hony. Secretary.

MEDICAL NOTES AND NEWS

REVISED MEDICAL COURSE FOR BOMBAY UNIVERSITY

The University of Bombay has made several changes in the course of study in medicine with a view to improving the standard of education in the branch.

The new regulations for the revised courses for the degree of M.B. and B.S., lay down *inter alia* that the period of course will extend to five years instead of 4½ years as at present.

Among the new subjects of study introduced in the medical course are normal psychology and radiology and electro-therapeutics in their application to medicine and surgery.

The clinical courses have also been revised.

FOREIGN RECOGNITION TO INDIAN PHARMACOLOGISTS

At the annual meeting of the Federation of American Societies for Experimental Biology, held recently at the Johns Hopkin's University, Baltimore, Lt-Col. R. N. Chopra, I.M.S., Director and Professor of Pharmacology, School of Tropical Medicine, Calcutta, was elected an honorary Fellow of the American Society for Pharmacology and Experimental Therapeutics.

This is the first time that such an honour has been conferred on an Indian pharmacologist the other recepients being Prof. Hans Meyer of Vienna, Prof. Straub of Munich and Sir. H. H. Dale, Director of the National Medical Research Council of Great Britain and a Nobel Prize man.

At the same meeting Dr. B. Mukerji, a pupil of Lt.-Col. Chopra and now Chief Pharmacologist at the Biochemical Standardization Laboratory, Government of India, was elected an ordinary member of the society for "conducting and publishing meritorious investigations in the field of pharmacology and experimental therapeutics." This is a coveted distinction for a comparatively junior medical research worker.

BIHAR SCHOLARSHIPS FOR WOMEN STUDYING MEDICINE

With a view to encouraging Bihari girls to study medicine and thus help in medical relief of women and children in the province, the Government of Bihar have decided to award three scholarships of Rs.30 a month each for a six-years course at the Prince of Wales Medical College, Patna, and a four-year course at the Darbhanga Medical school.

As the number of Bihar women doctors is very small in the province, good prospects for employment in the Medical Department exist for those willing to qualify for medicine.

INDIA'S POPULATION

Since the last census, it has been often given out that the increase in the rate of India's population is more rapid than the means of subsistence, that she is heading not only towards a population record of 400 millions in 1941, but perhaps also towards a crisis. An altogether gloomy picture has been generally drawn by the population experts. But is the situation really as serious as it has been declared? Dr. R. B. Lal, Director of All-India Institute of Hygiene and Public Health, Calcutta, addressing, as its chairman, the Vital Statistics Section of All-India population and Family Hygienic Conference held in Bombay in April last, presented a more hopeful picture. His view was that most countries had witnessed, and had adjusted themselves too, sudden increase in the population. The role of Science and Social effort was to bring about a balance between the population and amenities of life available at one particular moment. Besides, India's resources, both known and hidden, were as vast as her area, and there ought not to be any cause for alarm regarding shrinkage or space to live in. The problem, continued Dr. Lal, however existed not to cause alarm but to bring into play the constructive efforts of science, social workers and Governmental agencies so that life for the Indian masses might become more attractive, with greater physical comforts and amenities of thought, culture and social intercourse. Human population, if properly

organized and developed, might instead of being a dead burden to the country, be an asset of the highest order. It was man power. But is India really alarmingly overpopulated? In 1931, the density of population per sq. Km. was 75 in India, as compared with 76 in Japan, 194 in Great Britain, 240 in Holland and 268 in Belgium. If, then, the vast latent resources of this country are tapped and national wealth developed, there seems to be no cause for alarm, even when no artificial measures are adopted to check the rate of increase of population. Efforts must therefore be made to utilize fully the resources, of our land, to strengthen man power, and social, health and economic standards through the advancement and application of science. (*Science and Culture*, June, 1938, page 662).

INDIGESTION AND PATENT MEDICINES

The commmercial make-up of the wireless programmes in the United States of America seldom fails to astonish the newcomer to its shores, though impatience with the smooth-tongued announcers' dogmatic advice concerning gastro-intestinal misconduct is often tempered by apprehension of the infinite harm such propaganda might do to the more credulous listeners. The gravity of this problem is brought home by A. B. Rivers in an article, "The Dangers of Treating 'Indigestion' by Advertised Nostrums," in the proceedings of the Staff Meetings of the Mayo Clinic for February 9. His recent survey of the incidence of dyspepsia among a large number of patients attending the clinic shows that nearly half betwen the ages of 30 and 60 include among their complaints that of indigestion. In men over 40 the most frequent causes of this are listed as follows in percentages: peptic ulcer 23; functional 20; cancer of the gastro-intestinal tract, pancreas, etc., 17, cancer of the stomach 12·2; cholecystitis 9; cardiovascular disease 5. In women over 40 the figures are: cholecystitis 24·5; functional 19·8; peptic ulcer 9·5; cancer of the gastro-intestinal tract, etc., 5·8; cardio-vascular disease 4·8; cancer of the stomach 4·2 per cent. In studying this table, it is startling to think of the fact of dyspeptic men and women over the age of 40 whose symptoms are temporarily masked by patent medicines so that they procrastinate in seeking medical advice. But in all matters relating to disease Sir William Osler said nearly thirty years ago, credulity remains a permanent fact, uninfluenced by civilization or education. (*B. M. J.*, April 9, 1938, page 790).

ROCKEFELLER FOUNDATION ENDOWS CHAIR OF NEUROSURGERY

About $50,000 has just been granted to the Medical School of the University of Paris to establish a chair in neurosurgery. The first to occupy this position will be Dr. Clovis Vincent, whose contributions to this special field are widely known. Unable to secure beds in the public hospitals of Paris, Dr. Vincent organised his own hospital, where more than 600 brain operations were performed in 1937. With the co-operation of the public hospital authorities, he will now have wards at his desposal for neurosurgical work. Opportunity for research in this field will be greatly aided by the Rockefeller Foundation Endowment. (*J. A. M. A.*, April 16, 1938, pp. 1296).

POST-GRADUATE STUDY COURSES FOR INSURANCE DOCTORS

Forty-one doctors have just completed refresher courses at the Royal Northern Hospital, London and at the University of Leeds under the Ministry of Health's scheme for the systematic provision of post-graduate study courses for insurance doctors. Courses for a further 40 doctors are in progress at Liverpool University and at the Nottingham General Hospital and 66 doctors will begin similar courses at the British Postgraduates Medical School, Hammersmith, and at the University of Birmingham.

A start was made with the scheme last autumn with a short series of post-graduate courses at the British Postgraduate Medical School. This year a continuous series of courses is being provided by the School, supplemented by courses at the University Medical Schools in Birmingham, Bristol, Cambridge, Leeds, Liverpool, Newcastle, Oxford and Sheffield, and at the Nottingham General Hospital.

Arrangements have also been made for reciprocity with the Department of Health for Scotland whereby 35 English doctors will be provided with courses at Scottish centres and a number of Scottish doctors will be accommodated at the British Post-graduate Medical School.

In all about 850 English insurance doctors will attend courses this year and the scheme will be extended until about 2,000 doctors are dealt with yearly, enabling every doctor with a substantial insurance practice to have a refresher course once every five years. The cost is being met from National Health Insurance Funds. (*Medical World*, May 13, 1938, page 401).

SHORTER HOURS FOR L. C. C. NURSES

A reduction in the hours of duty of L. C. C. Nurses from fifty-four hours a week to ninety-six a fortnight, and the abolition of split duty, are proposed by the Council's Hospitals and Medical Services Committee.

In a report which will come before the Council the Committe emphasises the advantage to be gained by the simultaneous introduction of the ninety-six-hour fortnight and straight shift system of duty in the general and special hospitals. It states that its proposals should improve the general standard of the hospitals' service and be a potent factor in stimulating recruitment.

About 1,000 additional staff, at an ultimate estimated cost of nearly £123,000 a year, will be necessary. During the present financial year it is estimated that the additional expenditure will be just over £89,000.

The Committee also recommends additional facilities and freedom for the resident nurses.

At present all the female nursing staff except probationers when off duty are allowed leave of absence until midnight without previous permission. Extension beyond midnight is granted at the discretion of the matron.

The Committee has now decided that in future extensions beyond midnight shall be regarded as normal freedom for the trained staff, and that they shall not be required to obtain permission beforehand. Later leave of absence will also be granted to probationers nurses.

Other proposals for nurses include:—

Use in the evenings of gymnastic apparatus in massage departments.

"General purposes" rooms for games, theatricals, dressmaking, etc.

Breakfast or supper in bed on their days or evenings off, and light refreshments after 10 P.M.

Mr. Herbert Morrison, M.P., Leader of the L. C. C., said that he hoped this great move forward would lead to a material addition to the recruitment for a high and dignified calling. He would welcome recruits from all parts of the country, and hoped that London girls especially would not be backward in applying for the posts. (*Calcutta Municipal Gazette*, June 18, 1938, page 91)

BOOK REVIEWS

THE DIAGNOSIS AND TREATMENT OF VENEREAL DISEASES—By David Lees, D.S.O., M.A., M.B., D.P.H., F.R.C.S. (Eng.), F.R.C.P. (Eng.), Third Edition, edited and revised by Robert Lees, M.B., F.R.C.P. (Eng.), with the following contributors: R. Cranston Low, M.D., F.R.C.P. (Eng.), W. R. Logan, M.D., F.R.C.P. (Eng.), D.P.H., and R. C. L. Batchelor, M.A., M.B., F.R.C.S. (Eng.), D.P.H., 1937, Published by E. & S. Livingstone, Edinburgh, Price 15s.

It is not easy to appraise this work. It is an excellent treatise for students and general practitioners and the fact that it has now reached its third edition is sufficient evidence of its popularity.

The book is divided into two parts. The first part deals with syphilis,chancroid, granuloma venereum, phagedena, inguinal bubo and climatic bubo or lymphogranulomatosis inguinalis.

The second part deals with gonorrhœa and nonspecific urethritis. In the first part on page 9 though it is stated that a chancre of the cervix occurs very frequently still it is insisted that for a chancre in the female the common sites are the labia majora and in order of frequency after this, the labia minora, the fourchette etc. In his classical monograph on "Primary Syphilis in the Female", Anwyl Davies clearly showed that the usual site of the chancre is on the cervix or cervical canal. Many of the so-called chan-

cres of the female external genitalia are nothing but eroded secondary papules.

There have been considerable improvements throughout the book. The chapters on syphilis of the nervous system and cardiovascular syphilis have been rewritten and admirably handled. The treatment section on syphilis is excellent, the intermittent method recommended by the League of Nations Health Organisation having been followed in this volume. The chapter dealing with chancroid, phagedena, etc., is practically all new material and the chapter on vulvo-vaginitis of children has been rewritten. The former pharmacopœia has been condensed and two appendices have been added. Appendix I contains a list of the commoner drugs used in the treatment of syphilis with their trade names and sources of supply and this, indeed, is an excellent addition to this volume. Appendix II contains a list of the clinics for treatment of venereal diseases. The illustrations and colour printings are all excellent.

Within a reasonable compass and at a very moderate price of fifteen shillings it gives an admirable survey of the subject in an excellent manner.

This edition has been offered as "a tribute to the memory of the late Dr. Davies Lees", the original author.

J. M. MODAK.

ILLUSTRATIONS OF REGIONAL ANATOMY —By E. B. JAMIESON, M.D., Senior Lecturer, Anatomy Department, University of Edinburgh; 2nd Edition, 1937; Published by E. & S. Livingstone, Edinburgh.

The "Illustrations have been issued in seven sections of which we have received the first five.

There are many who consider that illustrations in the study of anatomy have a limited value as they fail to give the student a conception of structures in 3 dimensions. But, in formal lectures, one cannot dispense altogether with pictorial elements. Dr. Jamieson has in this book reproduced representations, either diagrammatic or drawn directly from specimens, which he uses in his lectures. The diagrams are in the nature of plates and are very good in their make-up and perfect in finish. They testify to the thoroughness and the high standard of accuracy and clarity that have been kept in view in their production. The colour scheme of the diagrams is refreshing to the eyes. This together with the bold and unmistakable lines with which the main details of each individual diagram have been brought into relief will certainly fix the subject into the mind of the beginner.

Though the "Illustrations" are far from complete, yet they will supplement the studies of the student, since most of them deal with portions on which representations are absent or imperfect in current textbooks. We append below a few features of the book:—

Section I. Central Nervous System: The illustrations give a clear idea of the different regions of the brain and their blood supply. The colour scheme and shading are calculated to catch the eyes. Excellent representations have been given of the boundaries of the sections through the inferior horn of the lateral ventricle, basal nuclei, lemniscus and substantia nigra.

Section II. Head and Neck: The osteological plates are interesting. Diagrams of sections of eyeball, lacrimal apparatus, deep relations of parotid gland, four stages of dissection of infratemporal and submandibular regions, three views of pharyngotympanic tube, relations of middle ear, fascia colli, prevertebral regions and structures at root of neck, sagittal section through cervical pleura, and diagrams of the cartilages of larynx have been represented in a clear manner. Some plates relating to the tongue and lymphatics would not have been out of place.

Section III. Abdomen: The diagrams have been arranged to show a building up of the walls on the bony frame work. The antero-lateral abdominal muscles, the inguinal region, and the rectus sheath have been well shown. The relations of the gall-blader, the disposition of lesser sac, the stomach-bed, the position of spleen, the relations of duodenum, the scheme of portal vein and its tributaries and the posterior relations of kidney and colon show marks of originality.

Section IV. Pelvis: Particularly interesting are the plates showing the constituent parts of urogenital region and the relations of rectum in both sexes, the schematic coronal section of vagina and external genital organs of the female and of prostate and perineum in the male, and the constituent parts of penis.

Section V. Thorax: The interesting diagrams are: Layers of thoracic wall shown in one plate, mediastinum from different aspects and the azygos system.

The only noticeable feature about the "Illustrations" is the absence of diagrams on Lymphatics. We hope the author will include this subject in a future edition either as a separate section or as a part of the different sections.

In conclusion we congratulate the author on his very able effort to present his excellent illustrations in such a manner as, we are sure, will go a long way to solve the difficulties of students in conceiving certain intricate structures and relations in gross human anatomy. We can unreservedly recommend these "Illustrations" to the attention of our Indian students. S. K. BASU.

DISEASES OF WOMEN.—By Ten Teachers. 6th Edition. Edward Arnold & Co. 18s.

This is the 6th edition of this well known text book. The teaching continues to be sober and sound. Controversial detail which would hardly be profitable to the senior student and general practitioner, for whom the book is primarily intended, is judiciously pruned and the main facts have been emphasised in clear language.

The section on physiology of the menstrual cycle has been brought thoroughly up-to-date and what is more important, the knowledge is presented in a form likely to be of practical help to the clinician.

A chapter on methods of contraception and sterilization is a welcome addition for increasingly larger number of patients are now seeking advice on these points from their physicians, which is as it should be, if the methods are not to be abused.

Perhaps a slightly more detailed description of operative procedures would be of advantage and at least a few illustrations of the commoner abdominal operations is a necessity to the students. As with its previous editions the book will continue to be a friend, philosopher and guide to a large body of students and practitioners. A. K. A.

MODERN TREATMENT IN GENERAL PRACTICE, Vol. IV—Edited by CECIL P. G. WAKELY, D.SC., F.R.C.S., F.R.S.E., Demy 8vo, pp. xliii, 440, 1938, Butterworth & Co. (India), Ltd., Calcutta.

The editor deserves to be congratulated for another successful annual issue of this highly valuable series. The new feature of this volume is the addition of the chapters on "Pitfalls in diagnosis". These include some of the most useful and practical articles contained in the book. The book is written entirely from practitioner's standpoint by well-known authors in a very simple and readable language. It is cheap and highly practical and should be read by all for whom it is meant as it will certainly serve them as an excellent refresher course of study. We trust that each successive volume will meet with a warmer welcome and an increasing demand.

P. G.

SWASTHYA-BIJNAN—By RADHA KRISHNA BANDOPADHAY, M.B., D.T.M., D.P.H., 1st Edition, 1937; Crown 8vo., pages 312+8+iv. Published by Raj Krishna Banerji from Calcutta. Price Re. 1/12.

This simple and concise book on elementary hygiene written in Bengali, is evidently meant for students preparing for the matriculation examination of the Calcutta University and fulfills a very definite need in this field. The new system of spelling introduced by the Calcutta University has been adopted in this book and will certainly be helpful to the students. The author has very ably composed much useful material in a small space and illustrations are clear and explains the text.

The printing and get-up of the book is good and inspite of a few errors of spelling and printing mistakes we are of opinion that the book will be very useful to those for whom it is intended.

J. C. B.

ACKNOWLEDGMENT

RECEIVED FOR REVIEW

1. Medico-Legal Post-Mortem in India. Messrs. J. & A. Churchill Ltd., 104, Gloucester Place, Portman Square, London, W.I.

2. Elements of Chemotherapy. The Actinic Press Ltd., 17, Featherstone Buildings, London, W.C.I.

3. A Comparative Survey of the Ayurvedic Nosology. Dr. Bhaskar Govind Ghanekar, Benares Hindu University, Benares.